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**THE EFFECTS OF CULTURALLY-BASED COMPUTER SOFTWARE ON
THE MOTIVATION AND ACADEMIC ENGAGEMENT OF AFRICAN
AMERICAN ENGLISH SPEAKERS**

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THE MOTIVATION AND ACADEMIC ENGAGEMENT OF AFRICAN
AMERICAN ENGLISH SPEAKERS**

by

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Dedication

This work is dedicated to several important people in my life. First, I would like to dedicate this to my father, Dr. Bennie Green from Kingsville, Texas, who has supported me emotionally and financially through out this process. He pushed me when I didn't think I had it in me to finish. Second, I would like to dedicate this to my mother, Stella L. Green, who is no longer with me. I wish my mother could have had the opportunity to see me achieve my goal of obtaining my Doctorate Degree. I know that she is here in spirit.

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**THE EFFECTS OF CULTURALLY-BASED COMPUTER SOFTWARE ON
THE MOTIVATION AND ACADEMIC ENGAGEMENT OF AFRICAN
AMERICAN ENGLISH SPEAKERS**

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There is a need to respond to the educational demands of African American English (AAE) speakers based on standardized measures (Carnoy, Loeb & Smith, 2001). There is also a need to fill the gaps in our existing knowledge base of the effects of culturally and linguistically responsive intervention on achievement and mediating factors, including motivation to learn and academic engagement. Otherwise, AAE speakers may receive inadequate instruction to meet their needs and may be at risk for further remediation or special education placement. Without interventions that address unique needs academically and effectively, achievement disparities are likely to continue (Gay, 2000; Harris, 1991; Perry & Delpit, 1998). Therefore, the question is What can be

done to improve the academic achievement and more specifically, reading achievement of AAE speakers? According to Rickford (2001), poor performance in reading is symptomatic of a disinterest in reading and may require providing AAE speakers with instruction and evaluation that are culturally and linguistically responsive (Delpit & Perry, 1998). For example, the use of cultural knowledge, prior experiences, frames of reference, and performance styles of ethnically diverse students may make learning more relevant and effective. Also, many educators have argued that curriculum, instruction, reading materials, and computer-assisted instruction that are based upon an Afro-centric model of education are likely more congruent with African American students ways of knowing and learning (Banks & Banks, 2001, 1995). The purpose of this study was to examine the use of a computer software program, Culturally And linguistically Responsive Reading (CARR), on the motivation of African American students' who speak AAE motivation to read and levels of academic engagement in reading. The student participants were selected AAE speakers receiving special education services and/or "at-risk" for special education placement who are reading below grade level. The study was primarily evaluative (Gay, 1985). It involved a 12-week open-trial during which seven students were exposed to CARR. While being exposed to CARR, measures were collected of the students' academic engagement with an additional qualitative component of interviews.

The results from this study suggest that the CARR tutorial software may be effective in reading motivation and academic engagement of AAE speakers in special education and/or "at-risk for special education placement reading below grade level.

Student interview responses revealed that AAE speakers in special education or “at-risk” of special education placement reading below grade level had positive perceptions about CARR. All students in the study perceived, as a result of using CARR that their reading motivation and academic engagement improved.

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CHAPTER 1

INTRODUCTION

At the forefront of educational issues and the discourse of educational equity is the academic achievement of African American students in public schools (Caldwell & Siwatu, 2003). The African American public school population is increasing (Jones & Jackson, 2003), yet one of the most troublesome issues associated with its growth is the historic and persistent academic achievement gap between African American students and their European American peers, especially in basic reading and reading comprehension proficiency.

Although the academic achievement for African American students has improved slightly over the years as measured by standardized test scores (U.S. Department of Education, 2003), in national and state assessments, African American students' standardized test scores remain below national and state norms (Chall, 2000; Knapp, 1996; McDermott, 1997; McWhorter, 2000). Disparities in achievement between African Americans and European Americans are most pronounced in literacy development and reading performance (U. S. Department of Education, 2003). According to the findings from the National Center for Education Statistics (2003), only 40% of African American fourth grade students were able to read at or above basic levels on national reading tests compared to 75% of European American fourth graders. Similar statistics were noted among eighth grade students in reading achievement. Only 54% of African American eighth graders compared to 83% of European American eighth graders were able to read

at or above basic reading levels. In Grade 12, approximately 35% of African American students were able to read at or above basic reading levels, as compared to, 81% of European American students in Grade 12 were able to read at or above basic reading levels. These trends in reading achievement are disturbing; as African American students increase in grade level, there is a decrease in their reading achievement based on standardized measures. This is not the case, however, for European American students who appear to actually make significant gains in reading achievement as they increase in grade level. The need to examine ways to improve African American literacy development and reading performance remains crucial to narrowing the gap in public school student achievement. To reach this goal remains a critical challenge for educators.

To begin, national reading initiatives have been developed to address reading disparities. For example, the *Reading First Initiative* emphasized in the Federal law, *No Child Left Behind* (NCLB) Act of 2001 is an ambitious effort that gives attention to achievement disparities among students in public education. Specifically, the *Reading First Initiative* targets children of color and English Language Learners (ELLs) in Kindergarten through Grade 3 (U.S. Department of Education, 2001) and establishes that instructional decisions in reading will be guided by the best available research for teaching basic reading and reading comprehension for these grade levels. The anticipated outcome is that all students will become proficient readers by the end of Grade 3.

Disparities in academic achievement and reading proficiency between African American and European American students are also of concern at state levels. Because of mandates like NCLB's *Reading First Initiative*, students are required to participate in

state standardized testing. For example, in the state of California, students are required to take the California Standardized Test and Reporting (STAR). In grade 3 52% of African American students passed the reading portion of the STAR compared to 79% of European American peers. Similar results are noted in Florida. On the Florida Comprehensive assessment Test (FCAT) 55% of third grade African American students passed the reading portions of the test compared to 84% of European American students. In Texas, students are required to participate in the Texas Assessment of Knowledge and Skills (TAKS). Similar to California and Florida, in Texas, academic disparities between African American and European American students are acute (Texas Education Agency, 2004-2005). For example, in 2003 only 76% of African American third graders passed the reading section of the TAKS, compared to 98% of European American third graders (Academic Excellence Indicator Systems Report, 2003). To the 2004 third grade TAKS reading results showed that 94% of African American third graders passed the reading section compared to 99% of European American students. One explanation for the reading gains of African American third grade students in Texas may be due to the intensive efforts like *Reading First Initiatives* and strides made in addressing the literacy needs of students with cultural and linguistic differences and their families.

Context of the Problem

Despite significant changes in reading performance of African Americans in Texas schools, the majority of African American students still lag behind their European American peers. Commonly accepted and available research-based instructional practices

outlined in the *Reading First Initiative*, promulgated in the literature and observed in the classroom today may not be appropriate for African American students (Dede, 2002, Paige, 2003, Harris, 1991), especially African American students who speak African American English (Perry & Delpit, 1998; Rickford, 2001). African American English is a communication variety used by some African Americans, with lexical, phonological, syntactic and semantic patterns intertwined with structures in general English (Green, 2002).

According to Delpit (1988), some research-based practices that are often used, such as literature-based instruction, are inappropriate for culturally and linguistically diverse students. Culturally and linguistically diverse (CLD) students are those students whose first language is one other than “Standard English”, or whose family background is not of the macro-culture and/or whose family background involves migration from a non-English speaking country (Bega Valley Shire Council Social Plan, 2005). This is the case because some research-based practices like literature-based instruction do not teach the necessary skills and strategies needed for reading and writing and for success in the larger culture in which these students live. In fact, some researchers have questioned the appropriateness of some research-based practices not only for CLD students but students with disabilities as well (Bos & Fletcher, 1997; Mc Cray & Garcia, 2002; Pugach, 2001).

African American student underachievement will persist without advances in research-based practices that accommodate their unique and culturally and linguistically diverse learning needs. Increasingly, some educators and researchers are calling for culturally sensitive, responsive and respective intervention to improve African American

students academic achievement (e.g., Ford, 2004; Harry & Anderson, 1999; Patton, 2002; Sorrells, Webb-Johnson, & Townsend, 2004; Steele, 1998). The need for culturally responsive instruction seems especially important with regards to motivation and academic engagement as it relates to reading comprehension instruction (Klein & Sorrells, 2005; Klingner, Sorrells, & Barrera, 2005).

Equally important are the effects of African American students' linguistic styles (e.g., African American English) on reading performance (Green, 2002 (a); 2002 (b); Snow, Burns, & Griffith, 2002). In recent years, researchers have examined the importance of motivation and academic engagement as determinants of reading achievement. Hilliard (2003), for example, asserted that educators must pay special attention to African American students' motivation in reading and academic engagement and how these variables influence students' success in reading and overall school success.

Motivation and engagement and their affects on race/ethnicity gaps in achievement have been studied in the fields of sociology, psychology and education (Mc Millian, 2004). According to Steele and Aronson (1995), a lack of motivation and academic disengagement explains the substantial portion of the achievement gap between African American students and their European American peers (Mc Millian, 2004). Several studies have suggested that African American students are more likely to be less motivated and more vulnerable to academic disengagement (Major, Spencer, Schmader, Wolfe, & Crocker, 1998; Hudley, 1998) because of the incongruence between the

students' home and school culture (Gay, 2000) and the lack of representation of students' language in curriculum and instruction (Rickford, 2001).

How then can we reverse the lack of reading motivation and academic engagement in African American students that affects these students' achievement? Unless there are successful reading interventions in the early grades that emphasize motivation and engagement for this population of students, it is likely that low performance among African American students and especially AAE speakers will continue into middle and high school grades (Harris, 1991; Perry & Delpit, 1998). While most efforts to address reading deficits are concentrated at the lower grade levels, substantial evidence is mounting which supports that there are low reading skills of middle and high school students (Bryant Linan-Thompson & Ugel, 2001; McCray, Vaughn & Neal, 2001). Without appropriate intervention, students who struggle in reading at Grade 3 and are not motivated to read are highly likely to experience reading failure well into their secondary years (Lyon, 1997). Subsequently, word recognition, reading fluency and reading comprehension are especially compromised. But in order for us to examine students' word recognition, reading fluency and reading comprehension we must first address the issue of the students' reading motivation and academic engagement. This is especially needed for African American English speakers who may be at risk for inappropriate referral to and placement in special education programs. These students may receive inadequate instruction to meet their linguistic and cultural needs and may be at risk for reading failure and special education placement.

For example, some theorist suggest that, some of the attitudes, values, and behaviors of teachers may cause students from non-mainstream racial, ethnic, and cultural groups to be mis-diagnosed and assigned to special education (Gay, 2000). Some African American students are misunderstood due to the differences found between their home and school language and school expectations, rather than some biological malfunction or intellectual limitations (Gay, 2000; Patton, 1998; Webb-Johnson, 1999). Other theorists suggest that linguistic patterns, for example, found among AAE speakers are often perceived as having a low status dialect or linguistic deficit (Gay, 2002, Rickford, 2001) resulting in students' intelligence and communication skills being labeled as inferior and in need of remediation (*Martin Luther King Junior Elementary School Children v. Ann Arbor School District Board* 463 F. Supp. 1027, 1979). To date, studies that explore the relationships between reading motivation and reading performance, between academic engagement and reading performance, and between reading motivation and academic engagement of AAE speakers at risk for and with disabilities are non-existent.

There is a need for responding to the educational demands of African American students and African American English (AAE) speakers in public school nationwide. There is also a need to fill the gaps in our existing knowledge base of the effects of culturally and linguistically responsive interventions on achievement and mediating factors, including motivation to learn and academic engagement, the intent of this study. By providing motivational and academically engaging curriculum and instruction

students' reading achievement may improve and may also prevent their disproportionate referrals to special education for these students.

According to Ladson-Billings (1994) the role of culture, race and ways of knowing are frequently overlooked when considering motivation for teaching (Willis, 2002). Currently, research on student motivation and academic engagement and its effects on students' achievement seem to be central to research on European American students. However, there is a lack of research on student motivation and academic engagement that emphasizes students of color more specifically AAE speakers and their placement into special education (Pintrich, 2003; Rickford, 2001). The few motivation and engagement studies that do exist on students of color focus on students in general education and suggest that African American students are susceptible to academic disengagement because of the curriculum and instruction that is provided and fail to reflect students' cultural and linguistic differences (McMillian, 2001, Rickford, 2001). African American students and particularly AAE speakers may receive inadequate instruction to meet their needs and may be at risk for further remediation or special education placement. Without interventions that address their unique needs effectively in motivation, academic engagement and academic success, achievement disparities are likely to continue (Harris, 1991; Perry & Delpit, 1998; Rickford, 2001).

Statement of the Problem

African American students represent an academically low performance group according to standardized test scores. Explanations have been provided concerning their

persistent low performance in reading. Yet, the question remains, What can be done to motivate and academically engage AAE speakers in reading? It has been theorized by several researchers in the field of linguistics and education that low achievement in reading can be attributed in part to some AAE speakers' oral language traditions and possible limited experiences with early literacy development and printed text (Snow, Burns & Griffith, 2002). However, this does not mean that all African American students and AAE speakers are unmotivated and disengaged academically. According to Craig and Washington (1999), some AAE speakers do better in school because they are able to code switch between classroom English and AAE. Code-switching is a term in linguistics referring to alternation between one or more languages, dialects, or language registers in the course of discourse between people who have more than one language in common (Wikipedia, 2005). Besides these perspectives of why some African Americans students and AAE speakers may continue to have low reading performance, at least two other factors may help to explain the underachievement among some AAE speakers in reading, literacy development and overall school success.

1. African American English speakers lack of motivation to read and lack of academic engagement in school (Rickford, 2001)
2. The lack of adequate or responsive instruction that accounts for or makes use of African American student's language styles and culture (Delpit, 1997; Gay, 2000; Labov, 1995).

Keeping students motivated academically is a major challenge for educators. According to Rothman (1990), this is a challenge for educators because many students

are bored with school and are unable to see much connection between schoolwork and their lives outside the classroom. Their boredom diminishes attention, lowers achievement, and is a likely reason for dropping out of school (Hootstein, 1994). Therefore, strategies are needed to reduce students' boredom and enhance student motivation because teachers sometimes struggle to keep CLD students connected to the curricula and interested in school (Willis, 2002). How then can we reverse the lack of motivation and academic engagement? One way to do this is by providing students with Culturally Responsive Teaching. Culturally Responsive Teaching (CRT) recognizes, accepts, and focuses on the strengths CLD students bring into the classroom. It uses cultural knowledge, prior experiences, frames of reference, and performance styles of ethnically diverse students, which makes learning more relevant and effective (Gay, 2000). CRT is designed to acknowledge the presence of cultural diversity and to find ways for students to connect with the content material (Montgomery, 2001). According to Rickford (2001), teachers can help their struggling CLD students develop an interest in school and remain connected by increasing their use of culturally and linguistically responsive materials (CRT). The idea of using culturally and linguistically responsive materials to motivate African Americans students in reading and language arts holds that teachers should make conscious decisions to select appropriate materials, in which African American students see, themselves reflected positively (Ladson-Billings, 1995; Rickford, 2001). By providing African American students with culturally and linguistically responsive materials, these students may become more motivated and academically engaged (Rickford, 2001). When students lack basic skills and interest in

school they are not likely to be active learners and/or engaged which further exacerbates reading performance and overall achievement. Students' lack of motivation and academic engagement is problematic especially with learning mastery.

Researchers have asserted that poor academic performance is an outcome of a student's academic disengagement that may begin as early as elementary grades (Finn, 1989; Kaplan & Middleton, 2002; Merchant, 1987; Natriello, 1984; Ryan, 2000; Rumberger, 1987; Scher, 2002). Students who are not academically engaged in school are placed at risk for academic failure and have a higher risk of dropping out of school (Gingras, 2001; National Center for Educational Outcomes, 2002). In order to improve student achievement it would be beneficial for students to be academically engaged with the curriculum and instruction. However, if students are not engaged with schoolwork, the likelihood of academic success is minimal (Finn, 1989). African American students and/or AAE speakers' engagement has been found to directly effect their academic achievement (Connell, Spencer & Aber, 1994). For example, several studies have demonstrated a strong relationship between student attitudes toward school and school subjects and their achievement motivation and academic success (Teel, Debruin-Parecki & Covington; 1998). When African American students and/or AAE speakers see themselves reflected in curriculum and instruction, they are more likely to be motivated and engaged academically in such subjects like reading (Delpit, 1995; Garibaldi, 1992; Ladson-Billings, 1994; Moore, 1982; Rickford, 2001).

The second factor, the lack of adequate or responsive instruction that accounts for or makes use of African Americans student's language styles and culture may contribute

to the explanation of the underachievement in reading for this population of students (Delpit, 1997; Gay, 2000; Labov, 1995; Rickford, 2001). The language of African American students plays a role in the level of success they achieve in school (Labov, 1995, 2001; Rickford, 2001). African American learners and/or AAE speakers typically receive instruction that is not culturally and linguistically responsive and is provided in classroom English, the language of instruction, thus the influence of AAE and students' culture in planning curriculum, instruction, and evaluation are potentially ignored (Banks & Banks, 2001; Delpit, 1995; Ladson-Billings, 1994). The language spoken by some African American students can affect the quality of education both academically and socially (Adger, Christian & Taylor, 1999; Labov, 1995, 2001; Lanehart, 1993). Consequently, a factor contributing to academic failure may be that curriculum and instruction is culturally and linguistically unresponsive, and not compatible with their linguistic patterns of this population of students. Language is closely connected to cognitive abilities and performances during academic development (Rickford, 2002). Because of the mis-match of African American students' dialect with classroom English, their mastery of basic reading skills can be affected (Fogel & Ehri, 2000). More importantly, these students' deficiencies in skill development and achievement may be due to the lack of representation of responsive curriculum and instruction that should be inclusive and accounts for the language differences (Hoover, 2000; Labov, 2001). In this regard, African American students' language differences are contextualized around their experiences, prior knowledge, and cultural capital just as students are in all cultures (Ogbu, 2000). Motivating African American students and AAE speakers and increasing

their academic engagement may be pivotal steps to improving African American and AAE speakers' reading skills and general academic performance.

Significance of the Problem

Low academic achievement, especially in the area of reading, leads to a systematic decrease in positive life outcomes in a society dependent upon literacy. According to Rickford (2001), poor performance in reading is symptomatic of a disinterest in school. This is an indication of a lack of motivation and academic engagement. If this disinterest could be reversed, African American students' performance in reading might improve. One way to enhance interest, motivation and engagement in school, and subsequently in reading, may involve providing African American students with instruction and evaluations that are culturally and linguistically responsive (Delpit, 1997; Mc Millian, 2004; Rickford, 2001; Willis, 2002; Ladson-Billings, 1994). When African American learners are not successful in school, service providers seek alternative methods to assist those learners. Conventional interventions, however, have not shown predictable and persistent increases in the motivation, engagement and academic achievement of African American learners (Banks & Banks, 2001; Delpit, 1995; Ladson-Billings, 1994, Rickford, 2001; Willis, 2002). Such interventions may have negative effects on the motivation and engagement of African Americans students and AAE speakers which may lead to an overrepresentation of African American learners in school discipline, suspension, and expulsion as indicated by data (Townsend, 2000; Webb-Johnson, 1999). These disparities further exacerbate the

disproportionate referral and placement of these learners in special education (Patton, 1998; Townsend, 2000; Webb-Johnson, 1999). Even when African American learners receive special education services, their receipt of effective instruction that increases academic outcomes, remains questionable. At present these conventional interventions yield continued and prevailing unsuccessful school outcomes (Markowitz, Garcia & Eichelberger, 1997; Patton, 1998; Webb-Johnson, 1999). While the direct effect of AAE on the achievement of African Americans and their placement in special education remains unclear, researchers do assert that a multitude of variables impact the attitudes, expectations, and perceptions of African American learners. This often leads to continued unsuccessful school outcomes and special education referral and/or placement (Anderson, 1992; Anderson & Webb-Johnson, 1995; Harry & Anderson, 1999; Hilliard, 2003).

Purpose of the Study

The purpose of this study is to demonstrate how instruction grounded in cultural characteristics and linguistic features and contexts of AAE speakers relate to improvement in motivation and an increase in academic engagement. This study, therefore, has the potential to provide an innovative instructional method to enhance the literacy development and reading performance of African Americans utilized with educators that teach this population of students. This study focuses on AAE speakers in special education and/or “at-risk” for special education placement who are reading below grade level, and the effects of Culturally And linguistically Responsive Reading (CARR) on their motivation for reading and academic engagement.

Research Questions

The following research questions will guide the study:

1. Does the use of CARR result in greater motivation to read for 4th and 5th grade AAE speakers in special education and/or “at-risk” for special education placement who are reading below grade level?
2. Does the use of CARR result in greater academic engagement in reading for 4th and 5th grade AAE speakers who are in special education and/or “at-risk” for special education placement who are reading below grade level?
3. What perceptions do 4th and 5th grade AAE speakers in special education and/or “at-risk” for special education placement who are reading below grade level hold about CARR to improve motivation and academic engagement?

Definition of Terms

In an attempt to clarify the complexities of assessing AAE speakers’ motivation and academic engagement several important terms of this study are operationally defined. The following terms are defined to enhance clarity of the basic characteristics related to this study.

Motivation. is defined as the psychological feature that arouses an organism to action toward a desired goal; the reason for the action; that which gives purpose and direction to behavior (Dictionary.com, 2005, Willis, 2004). In this study, the CARR Reading Motivation Scale will assess motivation.

Academic engagement. is identified by on-task behaviors that signal an interest in class work; these include attentiveness, doing the assigned tasks and activities and showing enthusiasm for the activity by taking initiative to complete assigned tasks and activities (Ginsberg & Wlodkowski, 2000); engagement is also indicated by students persistence to the task. For this study engagement is defined as the number of attempts made by the student to complete CARR passages, the length of time to complete passages in CARR and the percentage of correct responses on CARR passages.

Culturally and Linguistically Diverse Students. are defined as those students whose first language is one other than “Standard English”, or whose family background is not of the macro-culture and/or whose family background involves migration from a non-English speaking country (Bega Valley Shire Council Social Plan, 2000-2005).

Culturally Responsive Teaching. recognizes, accepts, and focuses on the strengths CLD students bring into the classroom. It uses cultural knowledge, prior experiences, frames of reference, and performance styles of ethnically diverse students makes learning more relevant and effective (Gay, 2000). CRT is designed to acknowledge the presence of cultural diversity and to find ways for students to connect with the content material (Montgomery, 2001).

Computer Assisted Instruction. is instruction delivered by a computer, which teaches specific skills and knowledge, often narrowed to a specific content area and grade range. CAI can be used in general to help students through problem processing at any grade level and in any content area (Gee, 2004).

African American English. for this study is defined as a communication or language variety used by African Americans, with lexical, phonological and syntactic and semantic patterns intertwined with structures in general English (Green, 2002).

Classroom English. for this study is defined as a spoken or written dialect of English in a school or college, as distinct from technical jargon or “nonstandard” speech or writing (Encarta World English Dictionary, 2003).

At-risk for Special Education placement. for the purpose of this study is defined as a student who (a) has been labeled by his or her teacher as achieving below grade level in reading and language arts, and (b) whose teacher has concerns about his or her academic progress in reading and language arts and thinks that the student may need to be referred for placement into special education for a disability in reading or language arts.

CHAPTER 2

REVIEW OF THE LITERATURE

The literature reveals that national and state assessments based on standardized tests scores repeatedly show substantial disparities in literacy development and reading performance between African American and European American students. A persistent lag in African American students compared to European American students' achievements are correlated with several formal factors such as African Americans' oral language traditions, limited early literacy development and printed text, their concurrent oral language deficits and their reading related disabilities (Snow, Griffith, & Burns, 2000). Informal factors are teachers' negative perceptions, attitudes and behaviors towards African Americans due to the lack of appreciation of language variety, language difference and poor reading achievement (Foster, 1992; Labov, 1972; Ladson-Billings, 1994; Perry & Delpit, 1998). Other factors that are associated with the achievement gap between African American and European American students are inadequate curriculum and instruction that accounts for African American linguistic styles and cultural norms (Delpit, 1997; Gay, 2000; Labov, 1995). Some researchers have reported a substantial relationship between African American students' lack of interest, which reflects apathy, low motivation to read, academic engagement and low reading performance (Rickford, 2001). These African American students and African American English (AAE) speakers are generally perceived to be apathetic and disinterested, that is lacking motivation to read and becoming academic engaged in school (Rickford, 2001). As a result, the

outcome is student underachievement in reading and in school generally, and a notable decrease in their positive life outcomes in a society that espouses literacy (Rickford, 2001).

One plausible solution to the disparities between the two groups is to offer African American students and AAE speakers curriculum and instruction that are culturally and linguistically responsive (Delpit, 1997; Green, 2002; Ladson-Billings, 1994). Traditional teaching techniques have neither produced predictable and persistent increases in the academic achievement of African American learners nor have they closed the achievement gap between African American and European American students (Banks & Banks, 2001; Delpit, 1995; Ladson-Billings, 1994). Rather, data continue to show that African American students who receive conventional interventions are affected negatively both academically and socially (Rickford & Rickford, 1995); African American and AAE speakers tend to receive more school discipline, suspension, and expulsion (Townsend, 2000; Webb-Johnson, 1999). They tend to receive more referrals for placement in special education programs for reading and behavioral problems, and African American students and AAE speakers tend to be disproportionately placed in special education programs for mild mental retardation, learning disabilities, and emotional and behavioral disorders. It is reasonable, therefore, to explore culturally and linguistically responsive instruction in reading and its relationship to African American students and AAE speakers' motivation for reading and academic engagement.

The literature review will present an analysis of research related to improving the motivation and academic engagement in reading of African American students. I begin with a review of research on African Americans' historical challenges in learning to read.

African Americans Struggle to Learn to Read

This section views the historical journey of African Americans in the education system with regards to achieving literacy. The works reviewed provide a succinct summary of African American students' struggle for educational equality and literacy development. African American students and AAE speakers throughout the United States are commonly evaluated on the basis of the achievement gap that exists between European American peers (Resseger, 2002), particularly in reading.

Struggle for Literacy Development

Historically and traditionally African Americans have valued educational equality and academic success to the extent that they have often suffered sacrificial measures to enter schools, while corporal punishment has been used to hinder their academic achievement. African Americans have struggled for the opportunity to not only go to school, but to also have a chance to learn to "read" or a chance at literacy development without fear or recrimination and death. Historically, equal opportunity to education has not been available to African American students (Woodson, 2000).

Literate culture began as early as the 17th century and schools for African Americans were opened in the early 18th century. During this era a large percentage of

political leaders began to re-evaluate if African Americans should be educated and freed from slavery (Woodson, 2000). While some leaders of the American Revolution favored “dismantling the slave trade, emancipating African Americans in bondage and eventually educating them for a life of freedom” (pg. 53), many of the advocates for promoting freedom and education for African American slaves did very little to actually provide an avenue for the slaves to be educated. For example, Hamilton “opposed the institution of slavery but he said and did little to promote the actual education of the colored people” (Woodson, 2000). Similarly, John Adams “detested slavery to the extent that he never owned a bondman” (p.58), but he never reprimanded slave holders that neglected the education of their slaves as well as maintained the position for gradual emancipation and education of African American slaves (Woodson, 2000).

A historical analysis of educating African Americans reveals that while there were opponents of slavery, they were often not ardent proponents of a quality education for them. They believed African Americans were intellectually inferior and would not benefit from formal schooling (Woodson, 2000). For example, most politicians and educators in South Carolina advocated school attendance in which it was required for African Americans, however the students were prohibited access to literacy, reading, and writing (Woodson, 2000). Instead, a greater emphasis of education for African Americans was placed on basic fundamentals of survival and the principles of Christianity (Woodson, 2000). Nevertheless, African Americans gradually gained access to education and before the end of the 18th century the larger urban African American population was engaged in communal efforts to educate their children and to provide instruction in

literacy (Gadsen & Wagner, 1995). Educators, community leaders, parents and clergy, despite protests and political restrictions made considerable sacrifices to provide their children access to basic literacy (Anderson, 1995). In spite of their efforts, more than 90% of African Americans remained illiterate in 1865 (Gadsen & Wagner, 1995). Some Americans and ex-slaves were committed to literacy development of African Americans (Anderson, 1988). Before the 19th century, African Americans made important strides toward eliminating illiteracy among their young through school attendance because African American children did not learn to read and write at home (Gadsen & Wagner, 1995). This influenced the high rates of adult illiteracy into the 20th century. Their struggle for equal access to literacy and education continues, but consequently the long struggle for education by generations of African Americans proceeds today but on much different terrain (Gadsen & Wagner, 1995). African Americans have been generally excluded from quality public education (Anderson, 1995), and have struggled against such inequalities as denial of access to literacy and education since colonial beginnings. Additionally, traditionally and to date African Americans have struggled for acceptance and use of their language.

African Americans Struggle for Language Diversity

Many African American students speak African American English (AAE). The literature on African American students' language variety had its inception with a non-receptive audience. In order to examine the literature in this area of research it is important to first define and describe the language used (AAE) by many African

American students, which is identified by the characteristics, we now identify as African American English.

What is African American English (AAE)?

Some scholars have labeled the oral language of African Americans as Black English, Black Dialect, Black Idiom, Black Vernacular English and African American Vernacular English, which were born out of a world, which included the middle passage, slavery between the late 16th century and mid-19th century, post-slavery, reconstruction, Jim Crow and individual and institutional (structural) segregation and discrimination that partially continues today (Landrum-Brown, 2002). The term, African American English (AAE) is used in this study emphasizes the spoken language characteristics of many African Americans.

African American English has been viewed by some socio-linguists as English used by a majority of U.S. citizens of African background, consisting of a range of socially stratified urban and rural dialects (Corson, 2001). It is also a derivative of an English vernacular, a non-standard of English varieties, an indigenization and creolization born from slavery (Labov, 1972). Several researchers characterize AAE as having the presence of a number of phonological and grammatical features (Berdan, 1980; Dillard, 1972; Fasold & Wolfram, 1970; Green, 2002; Labov, 1972). Foster (1992) sees AAE not as an impoverished variety but a complex language in a functional system for communication. Non-mainstream varieties may have different linguistic rules that govern their grammar or use of lexical items, but, contrary to popular belief, its

varieties are not linguistically deficient (Ball, 2002, 1992; Baugh, 1992; Edwards 1992; Fascold & Wolfram 1970; Poplack, Shana, & Tagliamonte, 1994). However, a phenomenon sometimes becomes problematic by its sheer definition, or the lack of a clear and concise definition. For the purpose of this review, AAE is defined as a communication or language variety used by African Americans, with lexical, phonological and syntactic and semantic patterns intertwined with structures in general English (Green, 2002). Some of the pronunciations and grammatical features of AAE are also found among other vernacular varieties of English. Additionally, features such as copula absence, habitual be, and remote BIN are rare and generally non-existent in European American vernaculars. However, the lexical features or vocabulary of AAE like slang, are used quite frequently among other races and ethnicities. Partly through the influence of rap and hip hop music, African American lexicon has "crossed over" into the mainstream, particularly among American youth (Rickford, 1997). For example, slang which is a small component of AAE is so widespread in the American discourse that many use the term Whassup regardless of their race and ethnicities (Rickford, 1997). Nevertheless, it is called "African American English" because primarily African Americans use the linguistic style.

Characteristics of African American English

The oral language of many African Americans is varied in character. Language is a mosaic created from many tongues. The Webster's dictionary defines language as words and the method of combining them for communication (pg. 189). The language spoken by many African

Americans is that of African American English (AAE). African American English has its own systems of sound, word structure, sentence structure, meaning and structural organization of vocabulary items and other information (Green, 2002). Some have viewed this variety as a hybrid symbolic system that emanates from a “compressed wreckage of phrases,” words from many global and local words and languages, e.g., African, English, French and Spanish (Blackwell, 1991). To comprehend AAE as a legitimate concept and a viable language, the question “What is AAE?” must be answered. This requires an understanding of and appreciation for the African American experience. Language in the African American has been an avenue of expression since the turn of the century. Below is an example of a language experience typical of an AAE speaking student in a traditional classroom English environment.

Students (excitedly): Miz Jones remember that show you tole us bout? Well, me and momma ‘nem –

Teacher (interrupting): Bernadette, start again, I’m sorry, but I can’t understand you.

Student (confused): Well, it as that show, me and my momma – Teacher (interrupts again) Sorry, I still can’t understand you. (Student, now silent, even more confused than ever, looks at floor, says nothing.)

Teacher: Now, Bernadette, first of all, it’s Mrs. Jones, not Miz Jones. And you know it was an exhibit, not a show. Now, haven’t I explained to the class over and over again that you always put yourself last when you are talking about a group of people and yourself doing something? So, therefore, you should say what?

Student: My momma and me –t

Teacher (exasperated): No! My mother and I. Now start again, this time right.

Student: Aw, that’s okay, it wasn’t nothin.

The excerpt was provided from Dr. Lisa Green's book entitled *African American English: An Introduction* (pg. 232).

As with any language variety those who come to speak AAE undergo a process of enculturation, a process through which culture is adequately learned (Gollnick & Chinn, 2002; Hughes, Kroehler & Vander Zenden, 2002). Language may express itself in verbal (oral), written (inscription) and non-verbal (gesture) forms. Each form of language is culturally produced. Language is essential in the transmission of culture (Gollnick & Chinn, 2002; Hughes, Kroehler & Vander Zenden, 2002). African American English is a cultural product created by a people to satisfy a particular group's need. Through a process of enculturation, children learn their first language and culture, which often differs from learning a second language and culture, which may have very profound psychological and social consequences for both children and adults (Saville-Troike, 1976). African Americans speakers learn AAE at an early age, but they are forced to communicate in classroom English, a second language, without having been acculturated to it. Children learn much of their language before they enter school (Saville-Troike, 1976) and they master most distinctive first language sounds before age three, and control basic grammatical patterns before they are five or six years old. However, complex grammatical patterns continue to develop and new vocabulary is learned throughout adulthood (Saville-Troike, 1976). Some common patterns found in AAE are the 3rd person singular (e.g. He run) and the zero auxiliary be form (e.g. He running; He nice). Other features that are unique to AAE is the habitual *be*, remote past BIN, verbal marker *finna* and preterite had however, these features are rarely seen in other varieties of

English (Green, 2002). Therefore, it is reasonable to conclude that children learn AAE as a cultural linguistic tool and from their experiences when they are young.

Who Speaks African American English (AAE)?

The people who speak AAE and the purpose this language structure serves is diverse and widespread. Approximately, 80% of African Americans speak AAE (Dillard, 1972; Graham, 1997; Tarnanen, 2001). In fact, AAE speakers have outnumbered Standard English speakers by ten to one in the African American community during the post-Emancipation period (Smith, 1979). African American children are a part of the 80% of AAE speakers and comprise a significant percentage of public school students, particularly in urban areas (Graham, 1997). Further, AAE has often been associated with a belief that poor and/or uneducated African Americans speak it. Although AAE does not refer to the spoken language of all African American speakers in the United States, African Americans from all educational and socio-economic levels use AAE.

African American English usage in the African American community serves a specific purpose as well as many AAE speakers use the variety because it is how they know to communicate. African American English connects African Americans to the culture, tradition and heritage of their African ancestry (Cronnell, 1983; Dillard, 1972; Fogel & Ehri, 2000; Graham, 1997; Kamhi, Pollock & Harris, 1996; Labov, 1972; Stockman, 1986; Wofford, 1979). According to the *Original Oakland Resolution on Ebonics* (1997), studies demonstrate that African American students, as part of their culture and history, possess and utilize a language described in various scholarly

approaches as AAE. A dialect is simply the way a group of people talk and it is reflective of culture, region, and ethnicity (Cronnell, 1983; Fogel & Ehri, 2000).

Struggle for Language Acceptance

The majority of early studies examining the use of AAE with students, found these learners to have language deficiencies (Anastasiow, 1979; Bereiter & Engelmann, 1968; Padak, 1981). The effects of students speaking AAE were thought to be overwhelmingly negative. For example, students were thought to have cognitive development delays and they were predicted to have limited educational success (Padak, 1981). Early studies found this language variety to be quantitatively and qualitatively inferior to conventional classroom English (Olim, 1970; Stodolsky & Lesser, 1967).

In some cases, the early research on AAE speaking students was largely criticized (Padak, 1981). Critics of the deficit research on AAE found fault with researcher's descriptions of the problem, experimental procedures and the theoretical framework of some studies which were based on a genetic deficiency model that claimed African American students were genetically inferior to their European American peers (Baratz and Baratz, 1970; Fasold, 1972; Labov, 1970; Padak, 1981).

During this time, there was an abundant growth of studies on this population of students because many researchers found that the conclusions from deficiency theorists were not valid and reliable (Padak, 1981). For example, a large proportion of research on AAE was strongly oriented to educational concerns from 1964 through 1974. The first large-scale quantitative socio-linguistic surveys of AAE were in fact funded by grants

from the U.S. Office of Education (Labov, 1972; Labov, Cohen, Robins & Lewis, 1968; Wolfram, 1969). The educational orientation of early research on AAE was particularly evident in Baratz and Shuy (1969) and Fasold and Shuy (1970), who dealt explicitly with the ways in which the systematic nature of AAE could be taken into account to improve methods of teaching, reading and language arts to African American children in the inner cities (Rickford & Rickford, 1995).

Rickford and Rickford (1995) recognized the need to make AAE accessible not only in the African American community but also to all persons of diverse cultures and backgrounds. They understood the importance of Africa in the process. For example, Rickford and Rickford (1995) exposed that to transition from one language to another, a student's native language must be fostered (Rickford, 2001). Learning to read in a familiar dialect has associated benefits. For instance, "in a Swedish-dialect context, Tore Osterberg (1961) found teaching basic reading skills in the dialect of the school children in a particular district (Pitea) increased proficiency. It appears that Osterberg created materials in the students' dialect. A study done by Philips (1982), with Native American students at the Warm Springs Reservation in Oregon examined the differences in communication styles and behavior patterns of students. She found that by providing culturally relevant materials, and teaching methods, which emphasized appropriate participant structures, Native American students experienced greater success and achievement in school. Similarly, in the Kamehameha Elementary Education Project (KEEP), use of socialization patterns and communication styles of Hawaiian students' homes within the language arts curriculum for grades K-3 promoted success of Hawaiian

students. Results from the use of this culturally responsive language arts curriculum showed significant gains in levels of achievement in reading for “at-risk” Hawaiian students (Vogt, Jordan, & Tharp, 1992).

H.L. Mencken (1921), in his well-known *The American Language*, claimed the Negro dialect “was a vague and artificial lingo which had little relation to the actual speech of Southern Blacks” (West, 1975, pg. 50-51). Research however, recognized AAE as culturally created. For example, “cultural background or national origin also makes an impression on speech patterns” (West, 1975, pg.52). Some analysts of AAE believe “originally this dialect was held to be “broken” English developed by illiterate slaves, but dialectologists are now finding many patterns of the original African languages in it” (West, 1975). AAE has become recognized for its origin. Therefore, “with the Black literacy movement, known as the Harlem Renaissance, in the early part of this century, African American writers began to go more and more into their own culture for material. This included the use of dialect” (West, 1975).

The use of dialect for African American students in our public education system traditionally and to date has not always been favored. According to Filmore (2000), schools have traditionally treated the speech of some African American students as simply sloppy and wrong, without evidence of knowledge and skills the student can build upon. In the late 1970’s the controversial issue of African American students’ language styles came in the forefront of educational issues. The legendary court case of Martin Luther King Junior Elementary School students vs. the Ann Arbor Michigan School Board (1979) set a standard for the use of the dialect in our education system.

Additionally, it highlighted the misidentification of some African American students as having disabilities because of cultural and language differences. Eleven parents of African American students argued that their children were being erroneously referred for special education services because of the use of AAE spoken by their children. Parents argued that their children had been denied access to an equal education (Padak, 1981).

Similarly, in the late 1990's African American English (AAE) came to the forefront again in educational issues with the *Oakland Ebonics Resolution* (Perry & Delpit; 1998). The 1997 Oakland Resolution had similar outcomes of the Ann Arbor Michigan court case decision. Both decisions supported the use of AAE as a tool for enhancing the learning opportunities for AAE speakers. The Oakland School District case has special significance for AAE speakers with an African American background. A controversy arose when African American students in Oakland California were being erroneously referred to special education because of their use of Ebonics, (AAE) their dialect. The 1997 Oakland resolution declared African Americans students' underachievement in school was because of discrimination due to their race and more specifically their language usage (Warschaur, 2003). The Oakland school board offered a description of Ebonics and supported Ebonics-based instruction for their African American students (Hvidt, 1997).

Many opposed the use of AAE in California schools. During the Oakland Ebonics Debates there were several issues that surfaced such as the use of AAE as the dialect variety of instruction for African American students, African American English's inclusion in the curriculum and teachers' negative perceptions concerning the dialect. The

Ebonics issue resulted from teachers' inability to understand students, students' poor performance in school and schools' teaching that AAE was wrong (Fillmore, 1997). Many critics of Oakland's decision viewed the students' language variety as "bad," "ungrammatical," or "malformed," and a collection of language mistakes rather than a system that differs in certain features from other dialects (Adger, 1999).

The Board of Directors of Teachers of English to Speakers of Other Languages (TESOL) issued a statement of support for the Oakland School Board's position, which recognized and encouraged the language of its African American students. Being cognizant of assessment biases, the Oakland Resolution addresses the issue of over-representation of its African American students in special education programs and classes. The resolution recognizes the influence of the Individuals with Disabilities Education Act (IDEA) on Oakland's African American student population.

The Importance of Identity and Achievement

Racial Identity

The importance of identity and achievement is critical to students' learning. Among persons of color, establishing racial and ethnic identity is particularly important since the system is predicated on a European American model that often ignores racial identity of African American students. The process of racial identity development among African Americans follows a general socialization process, which begins at birth and continues throughout adulthood (Cross, 1991; Rhee, 2002; Tantum, 1997). Most children

have a sense of their own and other's racial identities by the time they enter school (Rhee, 2002).

Many researchers who have examined the relationship between racial identity and academic achievement have provided conflicting results. Some studies suggest that African Americans students who are academically successful detach themselves from their own culture (Steward, Murray, Fitzgerald, Neil, Fear, & Hill, 1998). For example, junior and senior students from an urban high school were asked to complete a questionnaire to determine their attitudes about race, measure their coping styles, and help them to reflect on their personal moods and emotions. There was an association between students' negative beliefs about their own culture and low academic performance to the point that students were often unwilling and/or unable to relax among their own racial peers (Steward et al., 1998). On the other hand, other studies have suggested that African American students' academic failure demonstrates their individuality from mainstream culture.

Ogbu (2000) has sustained that African American students' academic failure is linked to their resistance against "acting white" and that their objection to academic success is associated with their beliefs of education and "whiteness." Oyserman, Harrison and Bybee (2001) showed that African American students who had positive self-images about their ethnicity were more successful in school than those who did not. However, some African American students who did well in school did not believe success was predicated on self-image; they felt that success in school reflected positive images of their community. High-achieving African American students who have adapted well to

their social environments have been found more academically successful. For example, Oyserman, Terry and Bybee (2002) found that students who identified with peers of their same race as well as peers outside of their race were more academically successful than students who had not yet developed their own racial identity or identified only with races other than their own (Oyserman, Terry & Bybee, 2002).

Racial Identity of African American Students with Disabilities

Racial identity, disability, and language identity upon examination, provide insight into the importance of racial identity of African American students with disabilities as they journey through a Eurocentric educational system. In this system, knowledge about the psychological construct of racial identity is valuable if we wish to understand African American students with disabilities (Alston, Bell, & Feist-Price, 1996). The double bias encountered from being a person of color and disabled results in discrimination by persons who are not disabled and who are not persons of color. These double jeopardy identities could have great negative affects on students, for example, African Americans with a learning disability may have to cope with a possible lack of motivation and engagement due to both characteristics of their disability and the lack of culturally and linguistically responsive materials being provided. According to Reynolds and Pope (1991), some African Americans with disabilities may not solely perceive themselves by race but identify themselves equally by disability. They may consequently identify and share more with individuals who have their disability. Additionally, African Americans with disabilities may be disability specific, which means that racial identity

may not be as significant to persons with certain types of disabilities. For example, an African American who is blind may have greater difficulty understanding the concept of racial identity because race is a visual concept (Alston, Bell & Feist-Price, 1996).

It is important to address the issue of African American students' disproportionate placement and over identification in specific categories of Special Education when addressing the issue of African American students with disabilities and their racial identity. The over-identification of these students primarily exists in the high incidence categories (e.g., learning disabilities (LD), mild mental retardation (MR) or serious emotional disturbance (E/BD) and speech and language impairment (SLI)); these disabilities are based on school identification rather than on physical impairment (National Reading Center, 2002). Nationally, African American students make up 14% of the total school population; however, African American students make up 33.83% of students in the mild mental retardation category, 26.68% in the E/BD category, and in speech and language impairment they comprise 15.62% and are increasing rapidly in this category (24th Annual Report to Congress, 2003). In the category of learning disabilities, African American students are 1.3 times more likely to be labeled as LD than their European American peers. These students represent 18.3% of students placed in the special education for LD (U.S. Department of Education OSEP, 2000). Greater efforts are needed to prevent the disproportionate representation among African Americans with disabilities in Special Education (Anderson & Harry, 1994; Patton & Townsend, 2001). Many times African American students are seen as having a learning disability, when in

fact these students are capable of doing the work but, are unmotivated and unengaged academically (Tidwell, 2003).

Language Identity of African American Students

Language identity of African American students has been pivotal historically and dialect has continuously been an important part of the development and expression of identity (Warschaur, 2003). Language identity is significant and an extremely complex phenomenon. For this reason, it is necessary for researchers from all fields to become more sensitive to a person's language identity (Schlossman, 1983a). Unfortunately, the aspect of language and dialect in the development of identity is an area that has been frequently overlooked in research. Since language and dialect play very important roles in identity development, language and dialect choices by people of color become "a symbol of ethnic relations as well as a means of communication" (Heller, p. 308). Unlike race and ethnicity, language variety enables one to express more than one identity by the linguistic choices they may make in a sentence (e.g., through code-switching) (Blom & Gumperz, 1972; Cooper, 2003).

Cooper (2003) links language and identity to the point that there has been widespread acceptance that language is a necessary and historically effective unifying force in a society and that identity with a particular linguistic style is necessary for the effective functioning of an individual (Cooper, 2003). African Americans' race and ethnic identities affect their functions as individuals. Their race and ethnicity have been a source of most of their oppression; however race and ethnicity intersect with other

identity markers such as language, which can provoke social struggle (Appiah & Gates, 1995). With regards to the African Americans' language and dialect as an academic tool is controversial to say the least. As a result of research and debate, several school districts, (e.g. Oakland, CA) have attempted to infuse African American students' language variety, (e.g., Ebonics) into curriculum. Ladson-Billings (1994, 2002) has identified features of culturally responsive pedagogy to help students to bridge school and home language. However, few researchers have provided empirical support of the benefits to students when their linguistic styles and culture are infused in reading curricula and instruction.

Language Identity and Academic Achievement

A substantial number of researchers believe that there is a relationship between language and academic achievement. Theories of African American English that are discussed in this section present AAE as a language and/or dialect variety and point to how the language of some African American's influence identity and effect African American students' academic achievement. The effects of AAE on academic achievement" seems to support the idea that language varieties can influence a student's academic achievement. We must ask, "How does language difference effect academic achievement?" For example, Rickford (2002) indicates that how teachers respond to AAE in the classroom can critically affect how students learn to read, and how well they master classroom English. Some linguistics believe that dialect difference can affect the quality of education received by some students both academically and socially (Adams &

Singh, 1998; Adger, 1999; Labov, 1995). Labov (1995), states “a child’s dialect may interfere with the acquisition of information and with various educational skills such as reading.” Linguists, educators and researchers asserted AAE is counterproductive and its linguistic structure causes academic failure. For example, Orr (1987) suggests that it is the difference between AAE and classroom English in the use of prepositions, conjunctions and relative pronouns that is the basis of the student’s failure.” According to some theorists, the cultural and linguistic deficit in African American children reduces the potential of their learning to read or achieve other academic competencies (Bereiter & Engelmann, 1966). Concerning academic achievement, Buford (1997) argued “AAE is counter to this educational goal; it embraces academic underperformance and creates inequality in standards.” While Howard (1996) also believed that AAE is counterproductive, he asserts, “bi-dialectalists postulate that AAE is equal to Standard English. They acknowledge the language variety is not inferior linguistically or conceptually but, claiming to be pragmatic, they feel Standard English must be mastered by African American children in...school so... these children can keep possibility of upward mobility alive” (pg. 6). In other words, acknowledgement of AAE does not negate the importance of African American’s learning classroom English. There is still the concern of those many linguists who support the idea that AAE is deleterious to African Americans students is their quest for academic success. Many linguists suggest strategies are needed to ensure AAE speaking students will not fail academically because of their linguistic differences (Hollie, 2001; Kamhi, Pallock & Harris, 1996).

Language, literacy, and reading development contribute to some of the educational challenges of African American students (Delpit, 1993). African Americans students have low performance rates on language and literacy standardized assessments (Beaulieu, 1997; Grant & Ladson-Billings, 1997). This issue is not at the forefront in mainstream educational communities, which often results in indigently developed language arts programs for dialect speakers. This may contribute to unsuccessful academic achievement, cultural discontinuity, and cultural development and literacy failures of African Americans students (Delpit, 1993; Grant & Ladson-Billings, 1997).

Several studies show the ability to learn to read can be predicted by the dialect spoken by the student. There is a known correlation between dialect speaking and low reading achievement, as well as the failure to achieve literacy (Bougere, 1981; Bull, 1990; Burke, 1973; Coleman, 1966; Hester, 1997; Hoover, 2000; Kachuch, 1978; Labov, 2001). For example, in a study conducted by NAEP (1963), results showed there was a relationship between AAE and the reading process. Goodman and Buck's (1973), earlier research also supported the theory that dialect differences influences the ability to learn to read. Many linguists, researchers and educators claim the grammatical rules that govern AAE are so different from instructional materials in schools. For instance, traditionally African Americans have omitted suffixes such as past *-ed*, plural *-s*, and possessive *'s* in classroom English. This incongruity between AAE and classroom English leads to low reading success for many AAE speakers (Baratz, 1969; Bougere, 1981; Bull, 1990; Burke, 1973; DeStefano, 1973; Hester, 1997; Hoover, 2000; Kachuch, 1978; Labov,

2001; Stewart, 1969), as well as may cause cultural discontinuity between African American students language identity and the expected spoken language of the classroom.

The Discontinuity Between African Americans' Racial and Language Identities and School Expectations

Cultural Discontinuity

The discontinuity between African American identity and school expectation might pose some difficulty for African American and AAE speaking students. The cultural discontinuity theory is grounded in the ideology that providing a culturally and linguistically responsive classroom environment will result in a higher rate of academic achievement (Ledlow, 1992). Responsive classroom teaching provides an environment that is culturally and linguistically sensitive, that may reduce culture shock for culturally and linguistically diverse (CLD) students, that may help them feel as though their teachers respect them, and that may prevent students from having to master a culturally unfamiliar way of behavior while they are expected to master academic content (Erickson, 1987 and Ledlow, 1992). The cultural discontinuity theory explains that African Americans' low academic achievement is due to the incongruence between African American students' home cultures and their school culture (Banks, 1995; Delgado-Gaitan and Trueba, 1991; Heath 1983; Losey, 1995; Walton, 1986). The culture of an American school is generally based upon European American middle class values, which generally are different from the home culture of many students of color (Losey,

1995). African Americans' culture and the practices utilized in raising their children are distinct; however, generally school systems neither recognize their distinct language, nor do academic institutions use African American's discernable dialects regularly in the teaching and learning processes (Boykin & Toms, 1985; Gibson & Ogbu, 1991; Wright 1983). Similarly, Collins (1979) and Hurn (1993) contend that the foundation and a main function of our education system have been shaped utilizing the dominant cultures values, ideals, and standards. This may create a school system and educational process, which may have a negative affect on the academic achievement of students of color (Harrison, Newton & Spickelmier, 1990; Trueba, Jacobs, & Kirton, 1990; Trueba, Rodriguez, Zou, & Cintrón, 1993).

Research that has focused on the cultural discontinuity theory has mainly dealt with the learning and teaching styles and language of students of color (Banks, 1995). The discontinuity theory explains that low academically achieving students' school difficulties are due to a lack of motivation and linguistic styles of these learners not being appreciated and recognized (Ogbu, 1985). The differences between academic expectations and community settings may cause difficulties for students from diverse cultural and linguistic backgrounds to which teachers are too often insensitive (Zurita, 1997). Students who speak a different dialect and/or English as a second language learners may not match the discourse of the classroom because of the lack of culturally and linguistically responsive resources provided to them to meet the demands of the classroom (Ogbu, 1985; Ledlow, 1992). When demands of the classroom are not met teachers perceive students to be cognitively inferior and to have some type of disability

Cultural and Linguistic Effects on Students' Referral to Special Education

Cultural and linguistic differences have become an issue that needs to be examined in regards to African American students and AAE speakers. Many African Americans and AAE speakers have been placed in special education at a disproportionate rate compared to European American peers. Research indicates that some influencing factors that may account for African American students' disproportionate placement in special education may stem from the nature of classroom instruction, teacher-student interaction, the teachers' frames of reference and standardized testing. Also, when educational needs are not met, children often experience frustration, confusion, and academic failure. The Journal of Special Education (1999) indicates that greater efforts are needed to circumvent mislabeling and high drop out rates among children of color with disabilities, these rates are 68% higher for children of color than for European American students. More than 50% of students of color in large cities drop out of school and many failing students demonstrate or produce behavioral problems. Research dispels a simplistic explanation of a disproportionate level of misbehavior by students of color and points to a biased educational system (Tidwell, 2003).

Cultural Differences and Special Education Referral

Cultural differences and special education referral clearly reflects the disproportionate representation of African Americans in particular special education categories. Disproportionate representation refers to the over and/or under representation

of a particular group. This problem negatively affects big proportions of African American students and their families (Patton, 1998). African American students in the categories of severe emotional and behavioral disorders have been and still are overrepresented in special education programs (Patton, 1998). There is a significant rate of overrepresentation among African American students in the Emotional Disturbance and Behavior Disorders (E/BD) category.

During the past decade, the United States has witnessed an increased number of school-aged children from culturally diverse backgrounds, e.g., African Americans. Presently, African Americans are about 14% of the school population (Jones & Jackson, 2003) and their quality of education is often compromised due to disparities in academic placement. Dunn (1968) cautioned that culturally diverse students such as African Americans would dominate special education settings (Webb-Johnson, 2002) because they are erroneously labeled and placed in special education for Mental Retardation (MR) and E/BD.

There has been a steady increase of African Americans in the category of E/BD over the past 22 years (National Research Council, 2002), and at present time, African Americans represent 27.2% of the E/BD category of special education (24th Annual Report to Congress, 2003). Ordinarily, African Americans are at a higher risk for E/BD identification because their behavior is perceived as problematic (Webb-Johnson, 2002). Unfortunately, establishing objective criteria for E/BD identification is just as problematic because judgment for this category has been and still is subjective. For example, many African American males are *perceived* as abnormal (Harry & Anderson,

1999) because they are seen as active, and therefore frequently labeled as having E/BD and/or Attention Deficit Disorder (ADD). However, they may merely be demonstrating a dimension of their culture called ‘verve’ (Webb-Johnson, 2002). This is the propensity toward high levels of activity (Boykin, 1983). Vervistic children are socialized to be active learners (Boykin & Bailey, 2001; Webb-Johnson, 1999).

African American English and Special Education Referral

African American English and special education referral practices are primarily normed on students from the dominant culture when evaluating the speech and language performance of African American students on standardized tests. Although some African American students are classroom English speakers and are socialized similarly to students from the dominant culture, many African Americans have different language socialization experiences, and/or use verbal and nonverbal communication patterns than their European American peers. These differences may be important concerning African American students’ approach to the formal speech and language testing processes.

A big proportion of CLD students are limited English proficient (LEP), or speakers of different dialects, with limited English skills, which may prevent them from benefits of classroom English instruction. Some educators have problems distinguishing disabilities from cultural and linguistic differences (Garcia & Dominquez, 1997).

Historically, children who are not classroom English speakers are often misdiagnosed with disorders and placed in special education programs based on assessment tests (Cole & Taylor, 1990; Hernandez, 1994). These assessment processes are inappropriate for

AAE speaking students (Hernandez, 1994; Seymour & Seymour, 1979). According to Baugh (1995), speech pathology is commonly used to diagnose African Americans for special education, even though AAE is not linked to pathological speech impediments. Classroom English differs enough to bias standardized test scores based on either verbal comprehension or verbal production (Seymour et al., 1979). For example, in 1995 in the Oakland Unified School District, African Americans were approximately 53 % of the student population, but more than 70% of the special education enrollment (Baugh, 1999). The significance of this problem is rarely addressed in general education. However, while it is not known to what extent AAE directly affects the placement of African Americans in special education; researchers do assert that AAE among a multitude of variables impact the attitudes, expectations, and perceptions that often lead to special education referral and placement (Anderson, 1992; Hilliard, 1992).

Teachers of color in general may have an impact on the direction of the process of students' of color referral and placement concerning special education because of similar cultural and linguistic experiences shared by the student and teacher (Cotton, 1991; Grossman, 1995; Irvine, 1991). Research has suggested as the percentage of teachers of color in school districts increases, the percentage of students of color placed in special education classes or subjected to disciplinary action decreases (Zeichner, 1992).

Motivation and Academic Engagement

Teachers' roles in motivating students are one of the many challenges educators must face if they wish to help their students achieve in school. Data show educators at all

grade levels need to focus more on student motivation as a significant step in the academic success of their students. There is a wide range of perspectives and definitions in the research literature on this topic. For example, Mazzoni and Gambrell (1999) indicated that the terms *attitude*, *interest*, and *motivation* sometimes mean the same thing in the literature. McCombs and Marzano (1990) indicated that student's achievement outcomes have been regarded as a function of two characteristics, motivation and skill. Motivation may also include two features: extrinsic (based on reward) and intrinsic (based on curiosity) qualities. Extrinsic motivation is reflected in students who only engage in learning to obtain a satisfying return or result and/or to avoid some form of punishment (Dev, 1997; Brooks et al., 1998; Lumsden, 1994). These students are generally persuaded to complete a specific task and/or to earn or receive a reward, e.g. grades (Dev, 1997; Lumsden, 1994). Intrinsic Motivation is represented by those students who are actively engaged in learning because they are curious, interested, and generally need no rewards or incentives to initiate or to complete tasks. They succeed in earning high grades and test scores (Dev, 1997; Skinner & Belmont, 1991), are more confident about their ability to learn new material, are engaged in more challenging tasks (Lumsden, 1994), and follow through and complete assigned work.

Although, extrinsic and intrinsic motivations are not mutually exclusive, intrinsic motivation utilizes the influence of culture on learning, (Ginsberg and Wlodkowski, 2000). For example, when students are provided culturally and linguistically responsive materials and instruction they may be more interested in curricula (Rickford, 2001). Because motivation inhabits all ethnic and cultural groups (Wlodkowski and Ginsberg,

1995), when learning is relevant to students' cultural values and perspectives, they are more likely to become motivated to learn and intrinsic motivation is produced based on what is culturally and emotionally significant to them (Wlodkowski & Ginsberg, 1995; Ginsberg & Wlodkowski, 2000).

Traditionally, our educational system is characterized by extrinsic motivation through which our students receive rewards and punishments (Ginsberg & Wlodkowski, 2000). On the contrary, students who respond on the basis of intrinsic motivation may be labeled and punished in this educational process. Students who are socialized with values that are similar to an extrinsically motivated school system may be rewarded because of their shared values through acceptance, grades, placements and promotions (Ginsberg and Wlodkowski, 2000). Accordingly, some researchers oppose the categorizing of students' motivation as either extrinsic or intrinsic (Strong, Silver, & Robinson, 1995). According to Sternberg and Lubart (1995), dividing students' motivation into extrinsic or intrinsic simplifies a complex issue with many factors that influence students' success in school. Furthermore, they support the idea that, generally successful students are motivated by both external and internal factors. Educators must recognize the impact that intrinsic and extrinsic motivation have on the academic achievement and success of students and should build upon these factors to engage students in school (Strong, Silver, & Robinson, 1995). This is especially important for African Americans who may first respond intrinsically to curriculum materials, teaching that is culturally and linguistically relevant and engaging, and then also respond positively to extrinsic reinforcement for

their efforts and performance. When students are motivated generally they will increase their academic engagement.

Academic Engagement

Academic engagement is closely tied to motivation concerning scholastic achievement and academic success. Some scholars believe that engagement is an element of disposition to action, and that engagement manifests itself in the application of various learning strategies (Pintrich and Schrauben, 1992). Engagement refers to the students' willingness to participate in routine school activities, such as attending classes, submitting required work, and following teachers' directions in class (Chapman, 2003). Engagement also deals with the intensity and emotional quality of students' involvement in initiating and carrying out learning activities (Skinner & Belmont, 1993; Chapman, 2003). Pintrich and De Groot (1990) and Pintrich and Schrauben (1992) define student engagement as motivated behavior that can be indexed by the kinds of cognitive strategies students choose to use and by their willingness to persist with difficult tasks by regulating their own learning behavior. Cambourne (1995) concluded that engagement occurs when students believe they are capable, are unafraid of physical or psychological harm, and are learning a beneficial activity. Motivation and engagement appear to be similar and like motivation, engagement is defined several ways in the literature (Nystrand & Gamoran, 1992).

Bonus & Riordan (1998) believed instructional practices and certain elements of the classroom environment, (e.g., seating arrangements), influence students' academic engagement. According to Blank (1997), it is important to include academic engagement techniques and strategies into the teaching and learning process because students who are highly motivated and academically engaged are less likely to drop out of school and more likely to have increased levels of academic success (Dev, 1997; Kushman, 2000; Woods, 1995). However, as students get older, their academic engagement decreases (Anderman & Midgley, 1998). For example, by the time students enter middle school their lack of motivation and academic engagement becomes increasingly apparent and by high school an even greater number of students are not sufficiently engaged and motivated to succeed academically (Lumsden, 1994). Some teachers are troubled by the fact that as students get older, they become less engaged in academic tasks. This has implications for students of color and more specifically AAE speakers because of the cultural and linguistic mismatch between these students and the current educational system that often isolates and devalues these students' cultural and linguistic backgrounds (Gay, 2000).

This influences the lack of academic engagement for many African Americans in school. The field of Anthropology has studied motivation and engagement concerning academic performance of students and the effects of culture on students' academic performance. Fordham and Ogbu's (1986) research addressed the disinvestments in education in the United States, for many students of color whose families have been denied equal employment and education. They examined the connection between academic performance and punishment and reward as it relates to students' perceptions of

the relationship as they are motivated to engage in reading. This lack of academic engagement of these students is problematic and can manifest itself in reading achievement, particularly among African American students and AAE speakers.

Motivation, Engagement and Reading

There is a prevalence of people in the United State who are readers and choose not to use their reading skills for recreation and personal interest (Turner, 1992). This may reflect a students' lack of motivation and academic achievement, which could lead to a decline in language acquisition and critical thinking skills (Turner, 1992). In the late 1980's, research focused on word recognition and comprehension. However, well into the 1990's, reading research began to focus on motivation, an integral part of reading instruction. Reading motivation, when combined with a study of reading engagement, answers the question of why some students choose to read and others do not (Kowalewski & Lysaker, 2001). In fact, Guthrie, et al. (1998) believed many researchers have used the concepts "reading motivation" and "reading engagement" interchangeably. Gambrell, Wigfield, Guthrie, Alvermann, and Baker (2000) sustain that reading motivation is the prime component of engagement. Guthrie (2001) concluded "engaged readers seek to understand; they enjoy learning and they believe in their reading abilities." On the contrary some researchers examine motivation and engagement as two different entities of a students learning in reading (Baker & Wigfield, 1999). For example, Guthrie (2001), have defined reading motivation as those readers who "generate their own literacy learning opportunities, and, in so doing, they begin to determine their

own destiny as motivated literacy learners." Baker and Wigfield (1999) focused on the dual nature or coexistence of motivation and engagement as an aspect of the other, e.g., engagement such as reading motivation, constructing meaning, using meta-cognitive strategies, and participating in literacy-based social interactions. Further, Baker (2000) writes that engagement as a cognitive skill is foundational to create an engaged reader.

Same are instructional approaches and teachers' practices for *engagement* (Guthrie & Wigfield, 1997; Guthrie & Cox, 2000). That is the instructional approaches may need more self-paced endeavors and less intense intrinsic motivational engagement where students might be overwhelmed by the foreign nature of the task and of the large volume of learning to be done. Perhaps, they argued, teachers should diversify their teaching efforts and become more qualitative than quantitative in their evaluations of students' motivation to read and engagement in reading (Guthrie, Wigfield & VonSecker (2000).

The results from research indicate that students are motivated to read for a variety of reasons (Wentzel, 1989). These studies begin to provide information that may be used to bridge the gap between motivation and reading research literature. Based on the research, gender appears to be a factor in reading motivation. Boys and girls behave differently with regards to reading. For example, The National Reading Research Center (NRRC) conducted a study with elementary school students. Several studies showed that girls' abilities, beliefs and attitudes about reading were more positive than boys (Eccles et al., 1993; Gambrell et al., 1993; Marsh, 1989; McKenna et al., 1994). Studies also have shown a relationship between age and reading motivation. McKenna, Kear, and

Ellsworth (1994) conducted a national cross-sectional study examining students' attitudes toward reading in grades first through sixth. Older students demonstrated more negative attitudes toward reading than the younger students in the sample, even though there was a decrease in students' positive attitudes toward reading across the elementary school years. Similarly, another study by the NRRC (1993), conducted research by using a 38-item scale developed by Gambrell et al. that assessed three dimensions of reading motivation. The three dimensions were self-concept, students' beliefs about reading's importance, and reasons for reading. From 330 third and fifth grade students, the fifth graders valued reading less and gave less positive reasons for reading than did the third graders.

From the literature, hypotheses have been offered based on information of researchers and scholars from a variety of disciplines and backgrounds as contributions to the theoretical framework for this study (Fordham & Ogbu, 1986; Guthrie & Wigfield, 1997; Guthrie & Cox, 2000). Motivation and engagement in the process of literacy development is a crucial academic success tandem, although motivation and engagement are often viewed separately. These forces converge to provide a deeper interest in the academic success of African American students with oral language differences. Technological materials, for example, the use of computer assisted culturally responsive instruction on students' motivation and engagement in reading and language arts may enhance interest and engagement for academic success. Motivational theory assumes a consistent relationship among motivation, collaboration, and thoughtfulness for all students. Lee and Anderson (1993) found four different patterns of students' motivation

and behavioral engagement with a sample of 12 students in two science classes. The purpose of the study was to distinguish whether students' interests were affected differently with respect to their motivation and engagement levels.

Research assumptions concerning motivation and academic engagement have been based on a Euro-centric model, which is insufficient when explaining academic success for students of color, particularly African Americans students. Consequently, generalizations have been made about African Americans' motivation and academic engagement. These research assumptions fail to recognize that beliefs and behaviors do not operate in the same way for all students irrespective of cultural and linguistic backgrounds. However, most motivation research has been conducted with European American middle-class students while students of color, primarily African American students are typically excluded from this area of research (Graham, 1994). It is unfortunate that African Americans are not represented in motivation research because they are disproportionately represented in some special education categories and they would benefit from academically motivating and task engaging strategies.

Motivation, Engagement and African American Students

Theories of culturally and linguistically diverse (CLD) students' motivation to learn are substantial, particularly with regards to African American students. Teachers with CLD students are obligated to keep them connected and interested in school as these students go through the educational process. Rickford (2001) suggests that teachers can help struggling African American students develop an interest in school and remain connected by increasing their use of literature and materials that are culturally and

linguistically responsive to the students' language and culture when developing curricula and instruction. Teachers should make conscious decisions to select reading and language arts literature and materials in which students see themselves reflected positively (Ladson-Billings, 1995; Rickford, 2001). By providing African American students with culturally and linguistically responsive literature and materials it motivates and academically engages students to the curricula (Rickford, 2001). Culturally congruent literature that motivates and academically engages CLD students encompasses both deep-structure and surface-structure literature. The two structures stimulate emotional and cognitive involvement and benefits CLD students (King, 1995; Rickford, 2001). Deep-structure literature relates to texts that contain themes, issues, characters, situations, and perspectives, which CLD students can identify (Rickford, 2001). Surface-structure literature deals with texts that contain linguistic features of some African American students. These linguistic features include "dialect usage and ethnic illustrations that capture students' interests and enhance their feelings of dignity and self worth" (pg. 9). For example, in a study by Harris-Wright, 5th and 6th grade AAE speakers were examined. The students were divided into two groups, a bi-dialectal group and a control group. The students were then taught in their dialect and in classroom English. Students' vernacular in the bi-dialectal's group were analyzed and compared with the controlled group. Results showed that in the three years the bi-dialectal students' group made bigger reading gains every year compared to the control students' group who actually showed minor losses (Maddahian & Sandamela, 2000).

Another research effort, the Blendwood study, included culturally congruent literature. These texts contained both deep-and surface-structure elements. When students were asked their opinions on the use of dialect for many of the stories, students responded unanimously that the dialect made the stories more interesting and exciting. They also claimed that the culturally congruent texts were effective because they were motivational, inspirational, engaging, and emotionally rewarding (Calfee, 1998; Rickford, 2001).

Motivation cannot be separated from the socio-cultural context, which influences daily life (Baker, Afflerbach, et al, 1996). For example, classroom context impact motivation and reading engagement because broader factors shape the kinds of experiences, which students encounter in classrooms. Student achievement and academic success are influenced by the socio-cultural context in which they exist. Therefore, when socio-cultural constructs are presumed to be universal and they are assumed to be normal concerning motivation and reading engagement, teachers may negatively interact with students who have diverse socio-cultural characteristics and histories, whose languages and lifestyles differ from the mainstream culture. For example, some teachers may see students' attitudes and behavior as a deficit and these teachers may influence how socio-constructs evolve and manifest themselves as they relate to their students (Baker, Afflerbach, et al., 1996). Students who come from socio-economically different backgrounds than their teachers' often experience difficulties in relation to their teachers frame of reference (Gay, 2000; 2002). Few studies have been examined in this area (Gambrell & Morrow, 1996). According to researchers, most work in this area has emphasized either school achievement in general, which systematically avoid reading, or

work that has focused on older students and adults (McInerney, Roche, McInerney, & Marsh, 1997). Therefore, the scope of motivation with younger students, including those with disability needs further examination.

Fordham and Ogbu (1986) discussed two factors that influence the academic achievement of some African American students, opposition collective (or social identity) and an opposition cultural frame of reference. African American students through perceptions and interpretations of education develop opposition identity and opposition cultural frame of reference. Oppositional cultural identity refers to African Americans' developed sense of identity in opposition to European Americans because of the social, economic, and political subordination they have encountered. Oppositional frame of reference refers to African Americans developed protective devices to reactivity promote African American identity by sustaining boundaries between themselves and the dominant European culture (Fordham & Ogbu, 1986; Ogbu, 2000; 1990). The educational system imposes a cultural norm from the mainstream culture on African American students as the standard for success and achievement. This appears to be the case with regards to classroom English, which devalues the use of AAE as a language (Adger, 1999).

Fordham (1988) coined the term "race less persona" because she found that many academically successful African Americans students have to give up aspects of their identities and their strong relationships with the African American community. To remain successful many times African American students are required to disengage themselves from their community which has been characterized by an opposition identity that does

not value academic success in order to be successful in mainstream society (Fordham, 1988; Fordham & Ogbu, 1986; Ogbu, 2000). African Americans have historically had a strong desire to learn, and they have valued education but have had a collective struggle for educational opportunity and equality (Anderson, 1988 and Perry, 1993; Ogbu, 2000). This desire is reflected in African American's multifaceted and continuous struggle for equal educational opportunity, educational attainment and success (Sanders, 1997; Ogbu, 2000). However, successful African American students are those who can evade the academic pressures as well as meet the expectations of both the school and their peers, which validate their African American identity (Fordham & Ogbu, 1986; p. 186; Ogbu, 2000). These students learn to be bi-dialectal and/or bi-cultural which are characteristics that are valued in non-traditional approaches to teaching.

Non-Traditional Approaches to Teaching Literacy

Non-traditional approaches to teaching are represented by numerous teaching techniques. These techniques have been hypothesized to motivate and academically engage students from culturally and linguistically diverse backgrounds. Among these approaches are multicultural education and culturally responsive teaching.

Multicultural Education

Multicultural education grew out of the civil rights movement of the 1960's (Banks & Banks, 2001; 1997). It has gone through many transformations both in theory and in practice. Researchers in the field have coined several definitions for the term

multicultural education (Gollnick & Chinn, 2002; Gorski, 1996; 2000). Despite a multitude of differing conceptualizations of multicultural education, this education movement proposes to increase equity for particular victimized groups without limiting the opportunities of another (Banks & Banks, 1997; Diaz, 2001).

Banks and Banks (1995) defined multicultural education as a field of study that aims to create equal educational opportunities for students from culturally and linguistically diverse backgrounds. One of the major goals of multicultural education is to assist all students in acquiring the knowledge, and skills needed to navigate effectively in a pluralistic society (Banks & Banks, 2001; Gorski, 2000). Multicultural education, as an approach, focuses on reversing current shortcomings, failures, and discriminatory practices in our educational school system (Banks & Banks, 2001; Gorski & Covert, 1996; 2000). It provides students with educational experiences in which they reach their full potential as learners. Multicultural education focuses on social justice and education equity for culturally and linguistically diverse students (Davidman & Davidman, 2001; Gorski & Covert, 2000). Students come to school with ethnic and racial identities, which must be recognized and respected by their classroom teacher (Banks, 2001; Gay, 2002; Rhee, 2002; Tatum, 1997). According to Chisholm and Weztel (1997) multicultural education is essential to teaching as nurturing is to human development, and it is based on the premise that teachers must understand and appreciate their students' cultural diversity (NCREL, 2002). It utilizes a combination of concepts, paradigms, and theories from other fields of study such as ethnic and women studies, history and social and behavioral sciences. Multicultural education undertakes content from these fields and disciplines to

pedagogy and curriculum development in educational settings (Banks & Banks, 2001; 1997).

Culturally Responsive Teaching (CRT)

Schools are not culturally neutral terrains. Ordinarily multicultural education maybe used to rectify this issue, in part we consider students from a variety of backgrounds (Boykin, 2000). Emerging research supports the efficacy of engaging in culturally responsive teaching (CRT), because schools typically practice a more traditional instruction, which is likely to have been characterized by tracking (Banks & Banks, 2001; Oakes & Wells, 1998). Academic tracking has appealed to those who support a narrow range of learning styles and curricula. It excludes the contributions of people of diverse cultures, languages and dialects. Tracking is a representation of how we teach our students (Banks & Banks, 2001; Gollnick & Chinn, 2002). According to Denbo (2002), the effectiveness of school is influenced by a school's culture, which can be expressed through its policies, practices, and beliefs. School culture may affect the quality of the social and emotional climates of the school, student achievement expectations, student and teacher relationships and school and community associations. Culturally Responsive Teaching (CRT) recognizes, accepts, and focuses on the strengths CLD students bring into the classroom; therefore, classrooms should be consistently reflective of students' cultural and particularly linguistic orientations (Gay, 2000). The use of cultural knowledge, prior experiences, frames of reference, and performance styles of CLD students makes learning more relevant and effective. Research on CRT as a

technique of effective schools shows that teacher's low expectations for students have negative effects on their students' academic performance (National Research Council, 2002). Teachers who apply CRT have more positive perceptions and expectations of underachieving CLD students than those who do not utilize CRT. Additionally, educators who utilize CRT acknowledge the presence of cultural diversity and find ways for students to connect with a variety of content materials (Montgomery, 2001) and these students are more motivated to learn and perform academically (McIntyre, 1996; Gay, 2002). Teachers benefit from the development of specific knowledge and skills that assist them in promoting respect for diversity in classroom pedagogy. Both teachers and students benefit from the use of CRT and its characteristics of recognition, acceptance and emphasis on students of colors strengths displayed in the classroom. Culturally responsive teaching is essential in a diverse and pluralistic society both in general and special education classrooms. The racial, ethnic and linguistic varieties and substantial disparities as it relates to effective pedagogy for students from diverse backgrounds plague the educational system. Unfortunately, educators that know the importance of CRT and want to use CRT complain of limited practical strategies that can be implemented in their classrooms. African American students and AAE speakers are particularly negatively impacted by these limited practical strategies.

African American English and Culturally Responsive Teaching

Culturally and linguistically diverse students have seldom been positively represented in instructional materials, such as textbooks and readers, which can lead to disengagement between the student and teacher (Gay, 2000). The venerable tradition of socio-linguistic research on AAE, the dialect spoken by many Oakland students, can be applied instructionally. Therefore, incorporating familiar African American language features into classroom instruction has been found to be a successful element for teaching African American students that speak AAE (Rickford & Rickford, 1995). Students can develop more accurate views of how language works by examining data from various dialects, developing hypotheses that describe and predict linguistic phenomena in those dialects, and collecting and analyzing data from their own speech communities.

Some have determined this method is helpful in pedagogy. For example, contrastive analysis techniques used in Oakland, offered innovative and effective methods to teach classroom English (Saville-Troike, 1976). A similar study was conducted by Aurora University, where who taught African American inner-city students with a contrastive analysis approach. With this approach classroom English and AAE features were systematically contrasted through explicit instruction and drills. It was found that there was a 59% reduction in students' use of AAE features in their classroom English writing after eleven weeks, while a control group taught by conventional methods showed an 8.5% increase in such features (Rickford, 1997).

Interest has increased in developing English as a second language (ESL) program for African American students who speak AAE (Landrum-Brown, 2002). Those who

provide appropriate curriculum and instruction for AAE speakers in school believe it will support those students who are not proficient in classroom English, which as a result, could negatively affect these students' academic success (Chall, 2000; Knapp, 1996; McDermott, 1997; McWhorter, 2000) in such areas as basic reading and language arts.

Despite educators' general acceptance of the importance of supporting students' first language as a bridge to English proficiency, many linguists have acknowledged it is difficult for many people to deal with the concept of AAE as an instruction method in public schools (Adger, 1997; Rickford, 2002). According to Adger (1997), "one of the aspects of Oakland's position on Ebonics (AAE) that seems so hard for many people to accept is the notion that attention to the dialect has any place in schools, let alone that students' proficiency in it offers a valuable language learning resource." In the 1979 court case in Ann Arbor, MI, a group of African American parents sued the local school system on behalf of their children, claiming students were being denied equal educational opportunity because of their language background (Chamber & Bond, 1983; Christian; 1997; Farr & Whiteman, 1980).

In 1997, Oakland, California's school board voted to recognize AAE as a second language and the primary language of its African American students. Oakland School District legislation recognized that African American students were ESL, and AAE would be used as the language of instruction for those students. The Federal Bilingual Education Act (20 USC 1402 et seq.) mandates that local educational agencies must build their capacities to establish, implement and sustain programs of transition for children and youth of limited English proficiency. Research indicates students who are bilingual

and taught in their native language acquire a second more quickly and proficiently (Cummins, 1994; Olsen, 1997; Rickford, 2001; Thomas & Collier, 1997).

As early as 1953, the United Nations Educational, Scientific and Cultural Organization (UNESCO) conducted a study regarding the role of language in education. This study indicated that it is best practice to teach students in their native languages (Baratz, 1973). Language interference can play a role in reading failure and the most effective way to deal with literacy problems of AAE speakers is to teach them using the variety of AAE (Baratz, 1973; Green, 2002; Perry & Delpit, 1998; Piestrup, 1973). Most African American children are fluent in AAE when they come to school and are highly likely to use AAE initially during classroom discourse (Rickford, 2002).

The important question before educators is, “should teachers respond to AAE in ways that positively and effectively influence student achievement, classroom English proficiency, and more specifically, their basic reading skills?” Piestrup (1973) found reading instruction that incorporated aspects of “Black language” into reading had a positive effect on raising the reading achievement of AAE speakers. Simpkins, Simpkins and Holt (1977) developed a cross-cultural reading program called *Bridge*. It was developed to teach reading in inner city schools to AAE speakers faced with deciphering the reading system in an unfamiliar linguistic style of classroom English. The program was used in five regions of the United States with 14 teachers and in 27 classes, grades 7th through 12th. Five hundred and thirty of the 540 students were African American (Labov, 1995). The results of the *Bridge* program showed significant gains in reading for 21 classes that participated in the study (Simpkins & Simpkins, 1981; Simpkins, 2002).

Impressed by the great gains of *Bridge*, the publishers Houghton-Mifflin marketed the reading program; however because of the objection of the use of AAE in the classroom from educators and some parents, the reading program was shelved (Labov, 1995). It is reasonable to suggest that the recall of the Bridge program would have a negative effect on the motivation and engagement of African American students and AAE speakers and therefore effect their academic achievement in reading.

Motivation and Culturally Responsive Teaching

There is a relationship between teachers holding high expectations for their students, content of the curriculum, and academic achievement (Edmonds, 1979; Sleeter & Grant, 1999). It is imperative that research efforts examine the role of CRT and its positive effects on motivation in reading and academic achievement. Students' attitudes towards reading are based on their interests derived from motivation and engagement. Several studies deal with these attitudes and interest in materials related to motivation, attention, and recollection. For example, Wigfield, (2000), concludes that motivational constructs affect children's interest in reading; affects their comprehension and task attention (Shirey, 1992) and their recollection concerning tasks. Patrick, Middleton and Taines (2000), state that if students find curricula subjects interesting, they may directly affect them. The topics become interesting to them, if it has cultural relevance. Additionally, it is found that attitudes and beliefs such as interest, confidence in ability to learn and perceived association between values and task are related to greater attention, behavioral engagement, thoughtfulness, comprehension, and memory (Chapman, 2003;

Pintrich & Schnuck, 1996). Interest may be conceptualized as a personal concern, an individualized peeve, or as a situational experience that generates towards particular classes and activities. In both situations, students' thinking and learning processes are exercised (Pintrich & Schunk, 1996). This may be the case concerning African American students and AAE speakers' interest and reading.

Among the many ideas put forward on achievement and assessment the issue of students' interest in reading and CRT is a motivational construct that has not received much attention. Wigfield (2000) found that interests in reading were important to academic success for elementary school students. They comprehended more with materials of high interest to them than topics of low interest. Therefore providing CRT to African American and AAE speaking students in reading may show similar effects in motivation and academic engagement. Similarly, Chapman (2003) concludes that individuals' interests in reading materials affect their comprehension and task attention. Jewitt and Kress (2003) indicated that children recalled more from interesting sentences. Jewitt, Kress, Goodman, Lillis, Maybin and Mercer (2002) further suggested that based on duration, children paid more attention to interesting than non-interesting materials. Finally, Renninger (2000) found in studies of fifth and sixth graders that even with difficult materials for students when they were interested in the materials read it enhanced their comprehension. Overall, results indicate that students' interest in the materials and making the materials relevant relates to effective learning strategies, level of attention, and comprehension of reading materials. It is incumbent on teachers and educators to become aware of this need for materials of interest to African American

students and AAE speakers and to incorporate this into instruction, which is not provided in traditional curriculum. For example, a method to create interest for this population of students might be in the form of technology, (e.g. using a computer).

The Influence of Technology on Linguistically Diverse Students' Overall Achievement

Motivation and Technology

The influence of technology on linguistically diverse students' overall achievement must be viewed as a factor in regards to African American and AAE speaking students. Goldman, Cole & Syer (1999) found that most schools have computers in their classrooms and/or computer labs. Approximately 90% of all schools have computers and are connected to the Internet, and more than 33% of teachers have computers and Internet access in their classrooms (Trotter, 1998). Technology in schools can promote engaged learning (Chaika, 1999; Gahala, 1997; Reeves, 1998). According to Means et al., (1993), technology can provide support for higher-order thinking by engaging students in authentic, complex tasks, and to interact with data in ways that allow student-directed learning and to build knowledge within collaborative learning contexts. Technology can provide engaging learning activities and it has the potential to ensure equity in educational opportunity for all students in all schools (Banert-Drowns & Pyke, 2001; Chaika, 1999; Reeves, 1998). Culturally and linguistically diverse students often attend schools that provide fewer opportunities for meaningful learning (National

Academy of Engineering, 2002). Therefore, technology has the potential to remove inequities between the schools in inner cities and suburban areas as well as between cities and rural districts (NCREL, 1997, 2000). Technology may equalize educational opportunities for all students regardless of their location and socio-economic status (Gahala, 1997; Means, Blando, Olson, Middleton, Morocco, Remz & Zorfass, 1993; NCREL, 1997; 2000). Education technology has the potential to provide equal learning opportunities in several ways. According to Grabe and Grabe (1996), technology in the form of telecommunications allows access to people and access to interactive services (Gahala, 1997).

Over the years, research has highlighted many benefits of using instructional technology with linguistically diverse students and more specifically limited English proficient (LEP) students. For example, tools such as e-mail, databases, spreadsheets, or word processors can help enhance LEP students' English skills and build on their native language skills through the availability of online dictionaries or spellcheckers (Johns & Tórréz, 2001). One of the goals of the *No Child Left Behind Act* of 2001 is to have every student technologically literate by the 8th grade, regardless of the student's cultural and linguistic background and/or family socio-economic status (NCLB, 2002). Technology offers all students opportunities for learning (Banert-Drowns & Pyke, 2001; Burgess & Trinidad, 1997). According to Murray and Kouritzin (1997), the use of computers can prevent linguistically diverse students from academic and social marginalization. By providing CLD students access to and the use of computer technology when doing activities in the classroom, it increases motivation and awareness of useful applications of

academic subjects (Banert-Drowns & Pyke, 2001; Ford, Obiakor, & Patton, 1995). It can prevent the loss of control over the direction of their learning. For example, students can control their time, speed of learning, autonomy, and choice of topics or even their own identity (Hoven, 1999). The incorporation of technology into the curriculum can enhance the learning of content areas. Effective integration of technology is achieved when students are able to select technology tools to help them obtain information in a timely manner and able to analyze and synthesize the information (Hoven, 1999). Technology is seen as motivational and nonjudgmental to many students. It can individualize their learning, meet specific student needs, promote equal opportunities and encourage student cooperation with their peers (Burgess & Trinidad, 1997). Through technology, linguistically diverse students can learn in an enriched linguistic environment and have opportunities to interact with other linguistic styles and, extend their language skills (Lee, 2000; Padrón & Waxman, 1996, p. 344). When technology is used effectively, it can engage students academically and provide support for higher-order thinking with authentic and complex tasks (Means et. al, 1993). When educators use the accumulating knowledge regarding the circumstances under which technology supports the broad definition of student achievement, they will be able to make informed choices about what technologies will best meet the particular needs of specific schools or districts. They also will be able to ensure that teachers, parents, students, and community members understand what role technology is playing in a school or district and how its impact is being evaluated. Finally, they will be able to justify the investments made in technology.

Computer Assisted Instruction

Computer Assisted Instruction (CAI) has created major changes in instructional practices, methods and materials for schools. Many researchers maintain that there is a positive link between CAI (Valmont, 2000) and academic achievement. CAI may have a significant impact on overall achievement in reading and language proficiency for all students in general and for African American and/or AAE speakers in particular, given their unique historical socio-cultural status. The use of CAI technology has increased in education settings (Fabry & Higgs, 1997; Fletcher-Flinn & Gravatt, 1995) and has been used as an instructional tool by special educators to assist in teaching (MacArthur, Ferretti, Okolo, & Cavalier, 2001). According to a 1998 survey by Burton-Radzely, currently 85% of special educators use CAI in their teaching of reading and 91% of special educators expect they will increase their use of technology in the future (Mac Arthur et al., 2001). Several studies show the effectiveness of CAI on early reading skills for students with disabilities (Lewis, 2000; Mac Arthur et al., 2001; Okolo, Bahr, & Rieth, 1993; Shiah, Mastropieri, & Scruggs, 1995). Although there is an abundance of studies related to CAI in early skills for students with disabilities, there are relatively no studies that examine the effects of CAI on students' motivation and academic engagement in reading and language arts. Research shows CAI utilized as a tool in reading instruction demonstrates significant improvements in reading comprehension (Kim, 2002) however, research on CAI and reading motivation and academic engagement have not been explored. This technology (Fabry & Higgs, 1997; Kiato, 1999) has been instrumental in the development of the tutorial software Culturally And

linguistically Responsive Reading (CARR), a program designed to assist in facilitating the bridge between African American students and/or AAE speakers' reading motivation and successful academic outcomes.

Culturally Responsive Computer Based Instruction

Several research studies have examined CAI and culture (Lee, 1999; Pinkard, 1999). According to Pinkard (1999), many computer software tools are designed to be culturally and linguistically responsive to students of color. However there has been few computer software applications designed specifically to facilitate literacy skills of African- American children (Pinkard, 1996; 1999). Results of prior evaluations of these applications indicate significant gains in word recognition, writing and other literary skills (Pinkard, 1999). Currently, no studies exist which document the facilitative nature of culture-specific versus non-culture specific computer-based educational tools for African Americans students and more specifically African American students with dialect differences that have special needs. Therefore a culturally and linguistically responsive computer based educational tool is needed to address the sparse existence of documents that facilitate the nature of culture-specific computer based educational tools for African American students and AAE speakers in order to enhance their reading motivation and academic engagement.

Culturally And Linguistically Responsive Reading (CARR)

The use of CARR tutorial software for AAE speakers was developed by Satasha Green, a doctoral candidate at the University of Texas at Austin, who utilized the theory of CRT and is based on its tenets. For example, CARR (a) incorporates multicultural information, resources, and materials in subjects and skills routinely taught in schools, (b) uses a wide variety of instructional strategies that are connected to different learning styles and (c) builds bridges of meaningfulness between home and school experiences as well as between academic abstractions and lived socio-cultural realities (Gay, 2000).

As a result, this study has the potential of assisting AAE speakers by providing computerized materials to study and students can interact with the computer, that is, if they have a library and a tutor. They can work on drills, tutorials, games, and simulations. They can work alone, with classmates in pairs, or in small groups. As a result, the CARR tutorial software can provide culturally and linguistically responsive reading passages and language arts activities that provide students an opportunity to utilize their language variety as well as classroom English. With such research, it may be possible to begin to answer questions about the influence of culturally and linguistically responsive materials and instruction on the motivation and academic engagement of AAE speakers.

Summary of the Review of Literature

The literature reveals a number of important findings relative to the study on reading motivation and academic engagement, culturally and linguistically responsive pedagogy and technology to enhance academic achievement of African American

students and AAE speakers. The literature indicates that educators who pay special attention to the academic interests of African Americans and AAE, the language used by some African Americans students, and if educators would encourage the use of culturally and linguistically responsive materials and instruction it would academically motivate and engage these students. Since African American students and AAE speakers cultural and linguistic varieties differ from conventional classroom English, educators should use the learning process would become more relevant and interesting to this student population (Gay, 2002, Rickford, 2001). They would become more motivated and engaged. African American English (AAE) is comparable to other language varieties in that AAE follows a similar set of linguistic rules. African American English cannot be analyzed properly without utilizing some of the existing tenets of linguistics, as is applicable to other language varieties. This linguistic issue is addressed by several scholars (Rickford, 2001). For example, Saville-Troike (1976) states that, language usually refers to its verbal feature, to its function in communication, and to its uniquely human character. Similar to other races/ethnicities, African Americans have taken features from other languages and other races/ethnicities have come to use AAE. For example, some European Americans urbanites and some southerners speak AAE. The spoken form of language happens much sooner than the written form in the historical development of language. Students' spoken language follows the same language developmental trend, even though spoken language is a complicated and a sophisticated system that evolves with time and usage. Spoken and written language is practical and assessable to the users and they become the vernacular. The vernacular is confused with

simplicity and the lack of sophistication (Saville-Troike, 1976). Because AAE is sometimes viewed this way, problems exist in instruction and assessment has essentially ignored the variety. Except for a few academicians, our society and the school system in particular, have viewed AAE negatively. Language is characteristically diverse and it is varied based on a multiplicity of linguistic features, among which are grammar, sounds, word, codes, etc. From this milieu comes AAE, which is the case for language varieties in general.

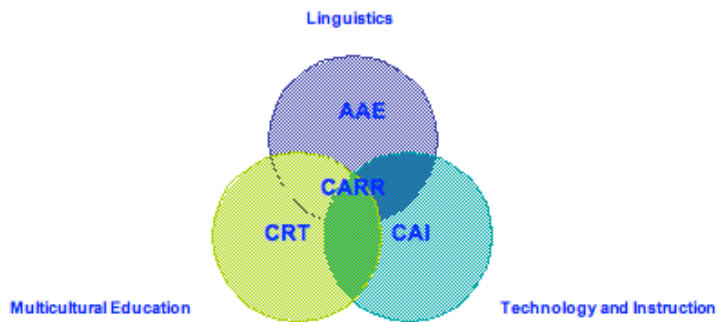
Important features of AAE speakers' identity are language and race. The importance of identity is critical to students' learning. Many researchers who examined the relationship between racial identity and academic achievement have provided conflicting results. However, perceptions about African Americans and AAE speakers that educators hold are quite negative and the effects of those negative attitudes are often reflected in the educational system and assessment application of performance. The problem is compounded with African American students with disabilities. Their identities are even more complex because they possess both the characteristics of race and disability. This has the potential for a double bias to exist based on a person of color who has a disability. Such discrimination based on racial and disability statuses, may help account for African American students having been disproportionately placed in subjective categories of special education. Greater efforts are needed to prevent this population of students' over-identification into special education. Language identities are often as important to students' as their racial identities. However, it has been frequently over looked in research. This is unfortunate because language identity can influence

academic achievement both positively and negatively. Many scholars believe that there is a relationship between language and academic achievement. In the case of African Americans and AAE speakers, the results have been more negative than positive in conventional society and classroom English settings. A cultural disjunction or disagreement has developed. This cultural discontinuity between African American identity and school expectations pose some difficulty for African American students and AAE speakers in general. This scenario supports the need for cultural and linguistic relevant CAI and pedagogy. Many non-traditional approaches to educating African Americans and AAE speakers can be utilized to academically engage these students because of this cultural mis-match between their home and school cultures. One example is the use of CRT. It is essential for the diverse population of students. For example, CRT's tenets are beneficial to CLD students because it recognizes, accepts and emphasizes students of colors strengths, which can motivate and academically engage these students in curriculum and instruction.

This literature examined three areas of study, Multicultural Education, Linguistics and Technology and Instruction. These three areas came together to provide a theoretical framework for this examination as well as the development of Culturally And linguistically Responsive Reading (CARR) tutorial software. CARR was developed to provide a motivational and engaging tool for AAE speakers in special education.

Figure 2.1.

Theoretical Framework



There is a historic and persistent academic achievement gap between African American students and their European American peers, especially in basic reading and reading comprehension proficiency. This may be due to the incongruence and/or misinterpretation of this population of students' culture and language. The need for culturally responsive instruction seems especially important with regard to motivation and academic engagement as it relates to reading comprehension instruction (Klein & Sorrells, 2005; Klinger, Sorrells, & Barrera, 2005). Equally important are the effects of African American students' linguistic styles (e.g., African American English) on reading performance (Green, 2002(a); 2002(b); Snow, Burns, & Griffith, 2002). By combining these three areas of research to examine the academic disparities of African American

students, more specifically, African American students who speak AAE, this may provide a new lens for effectively researching this phenomenon.

CHAPTER 3

METHOD

The purpose of this chapter is to describe the research method and design utilized in this study for measuring AAE speakers' motivation and academic engagement in the areas of reading and language Arts. Chapter III is divided into seven major sections: (a) development process and description of CARR, (b) research questions, (c) design of the study; (d) participants; (e) setting and context; (f) materials and (g) procedures.

Development Process and Description of CARR

Culturally And linguistically Responsive Reading (CARR) was designed and developed to incorporate culturally and linguistically responsive instruction and materials in reading and language arts. In detail, CARR provides systematic instruction in reading passages (e.g. famous African Americans and historians, events and things in the African American community and the African culture), language arts activities (parts of speech, homonyms and punctuation) and challenges (vocabulary in AAE) for the purpose of enhancing reading motivation and academic engagement for African American students that speak AAE and who are in special education and/or "at-risk" for special education placement. By incorporating research-recommended technical features of CAI, CARR facilitates the delivery of systematic culturally and linguistically responsive materials and instructions in reading and language arts in several ways: (a) individualized learning pace; (b) providing learner control; (c) providing the record of student's performance to

allow a teacher's progress monitoring; and (d) maintaining a student's interest and motivation.

Conceptual Framework for CARR

The conceptual framework for CARR was an integration of two critical components designed to promote reading motivation and academic engagement for African American students and AAE speakers in special education and/or “at-risk “for special education placement. The first component was motivational instruction. Based on an accumulation of research, the critical factors associated with appropriate and effective motivational instruction have been identified (King, 1995; Ladson-Billings, 1995; Rickford, 2001). CARR capitalized on this knowledge base and integrated these components into a CAI program for AAE speakers in special education and/or “at-risk “for special education placement. The second component was culturally and linguistically responsive teaching (Banks & Banks, 2001; Gay, 2000; McIntyre, 1996; Montgomery, 2001).

Incorporated Objectives

CARR was designed and developed to incorporate TEKS' reading and language arts objectives from grades 3rd – 5th. Specifically, CARR provides the TEKS objectives of *root words* and *suffixes*, *homonyms*, *reading in a variety of genres* (realistic, imaginative fiction and nonfiction), *recognizing more complex capitalization and punctuation, the use of nouns* (common nouns, proper nouns, plural nouns and compound nouns), *recognizing verbs* (verbal

markers used in AAE, past tense and irregular verbs), and more *proficient spelling of contractions*.

Design of CARR

The CARR software was designed to be a colorful animated game that helped to tell a story about the adventure of traveling through an African American community. To make sure that the animation and characters of CARR were culturally responsive, the author of this study hired a young African American artist to develop the software's main characters, Byron Smith (protagonist) and Calvin Brown (antagonist). The artist was asked to develop two characters that were reflective of the current hip-hop fashion style that might be seen on young African American students. To make sure that the beginning animated movie was reflective of current slang that some African American students use the author recruited a 14 year old African American male to write the script. Additionally, the voices of the characters Byron and Calvin were two young African American males ages 9 and 14. Their voices were modified to sound similar to characters seen on other animated African American cartoons and television shows familiar to most African American children.

The Structure of CARR

The purpose of CARR is to provide culturally and linguistically responsive instruction in research-based motivational strategies for AAE speakers in special education and/or "at-risk "for special education placement for the purpose of enhancing reading motivation and academic engagement for this population of students. The

program starts with an opening log-in screen where students can log in with their user name and ID. When students type in their user names and ID and start the CARR software, it keeps records of students' performance. Once students start CARR, an animated movie plays. The movie sets the stage for the theme of the software. Two African American students Byron Smith (protagonist) and Calvin Brown (antagonist) are at recess. Bryon is reading a book and Calvin begins to tease him about reading and steals his backpack. Calvin then takes the books from Byron's backpack and hides them at several different locations. These locations distinguish the different levels of CARR. Each reading level includes 4-5 reading passages, which range in reading levels of 1st to 5^h grade, one language arts activity and one challenge, resulting in the total of 54 passages and activities. The students are then taken through the reading passages, language arts activities and challenges where they have an opportunity to earn back Byron's books if completed successfully. Because CARR was developed to be game-like and to measure students' motivation and engagement it is structured to have all students go through the same sequence of reading passages, language arts activities and challenges. It was developed in this way in order to monitor students' individual progress as well as progress of the entire group on each reading passage and language arts activity. By having each student to start on the same passage and follow the same sequence gives the researcher an opportunity to compare within group results. Once students have passed all levels, collected all books, of CARR they receive Bryon's backpack.

Types of Reading Passages and Language Arts Activities

Some of the reading passages and language arts activities were developed by the author of the study and were utilized in CARR. Reading passages at six different reading levels were used in CARR. Each reading level included 4-5 reading passages, one language arts activity and one challenge. There were a total of 54 language arts and reading passages that could be attempted in CARR including 8 passages in African American English, 31 passages in Classroom English, 19 passages about African Americans (10 on historical figures and 9 on famous current African Americans), 7 passages on the African culture, 8 passages on people and 9 passages on events and things in the African American community. However, some of the passages overlap into more than one genre. For example, the 9 passages in the category of people are also counted in the 19 passages about African Americans.

AAE Passages in CARR

There are 54 reading passages and language arts activities in CARR. Eight of the 54 reading passages and language arts activities were written in AAE. The reading passages written in AAE employed features commonly used in the language variety. In the reading passage *Making Cornbread* an aspectual combination with markers *be* and *den* are applied. An example of the aspectual combination is shown in the sentences “*I sometimes sneak a piece when Aunt Rita ain’t looking. I **be den** ate 4 pieces by dinnertime.*” This combination denotes a resultant state and simply expresses imminent actions (Green, 2002). Another feature of AAE that is present in the *Making Cornbread* reading passage is the verbal marker *steady*, (which indicates that an event is done in an

intense and consistent manner). Its usage was shown in the sentence “*When everyone else be talking and chatting at the table he be **steady** eating cornbread*”. This marker is used to show that the (eating cornbread) action is consistent and continuous (pg.23). A second feature that is also employed in this sentence is the verbal marker *be*, “*When everyone else **be** talking and chatting at the table he **be** steady eating cornbread.*” This feature also occurs in the reading passage *Kenya’s Trip to the Beauty Shop*. The verbal marker *be* is shown in the sentence “*Kenya **be** waking up early to make it to her hair appointment and in the sentence “If La’Tavia doesn’t wipe off the perm fast enough Kenya’s ears and neck **be** burning even her head.*” This marker denotes habitual meaning and shows that an event occurs over and over (Simpkins, 2002). Another feature of AAE that is utilized in CARR that is similar to the verbal marker *be* is the reduced or zero form of the auxiliary verbal marker. They are similar because they occur before verbs, adjectives, nouns, prepositions, adverbs and at the end of sentences. In the reading passage *Barber Shop* the zero *be* is shown in the sentence “*My dad only lets the best barbers cut his hair. So, you know he Ø good*”. The reduced or zero *be* does not occur in the sentence overtly, as indicated by “Ø”. Additionally, it does not necessarily have the habitual interpretation that is associated with the verbal marker *be* (Green, 2002).

Some reading passages utilized slang, which is a small feature of AAE. For example, in the reading passage *A Visit to Big Momma’s House*, the slang word *ride* is used. In the sentence “*Kenyata looked out the back window of her father's ride as they drove down Interstate Highway 35*”, the word *ride* in this sentence means a car or source of transportation (Smitherman, 2000). Another example of the use of slang in CARR

reading passages is with the passage “*Tia’s Braids*.” The slang word *tight* which means great, superb or excellent, is shown in this sentence, “*Kenya’s hair is always tight.*”

Other slang words such as *do your thing* which means to behave, perform or do something in a unique way and the word *girl* which is a generic reference for addressing a female were utilized in this same reading passage e.g. *Thank you La’Tavia, you did your thing, girl* (Smitherman, 2000).

Slang Challenges in CARR

The slang challenges in CARR were developed by the author of the study. Six out of the eight challenges in CARR employed slang vocabulary from AAE. Challenges in CARR were context clues activities that utilized slang words that were specific to AAE. In each challenge eight slang vocabulary words were put into sentences for the students to decipher their meanings by using clues from the sentence. Three answer choices were written in classroom English for students to select in order to find the correct answer. Below are examples of challenge questions.

- 1) *ashy*: Yolanda lotioned her legs because they were ashy.
 - a. dry
 - b. wet
 - c. hot

- 2) *get over*: The students tried to get over on the teacher by pretending to do their class work.
 - a. take advantage
 - b. jump
 - c. help

Readability of Passages

The reading passages that were utilized in the CARR tutorial software came from two sources: (1) pre-existing reading and language arts activities and (2) reading passages developed by the author. The readability of each passage developed by the author was determined. Readability refers to the level of difficulty of the written text (Gillet & Temple, 1994). To determine the readability of each passage, the Flesch-Kincaid Formula and the Microsoft Office Word computer program were both utilized. The Flesch-Kincaid Formula utilizes the following steps: (1) calculate L, the average sentence length (number of words/number of sentences); (2) calculate N, the average number of syllables per word (number of syllables/number of words); (3) calculate grade level with formula: $(L \times 0.39) + (N \times 11.8) - 15.59$; and (4) calculate reading age with formula: $(L \times 0.30) + (N \times 11.8) - 10.59$ years. The formula was selected because it has been frequently used and validated for assessing reading materials intended for children from Grade 1-8 (D'Alessandro, Kingsley, & Johnson, 2001). This range corresponded to the age of the children involved in the present study. This readability formula is also widely used by reading experts and researchers to determine readability of passages used in studies of reading and literacy development (National Institute for Literacy, 2004). A table may be found in the appendix of the readability of all reading passages of CARR.

Authenticity of Passages

The reading passages, language arts activities and challenges in CARR were developed to be culturally and linguistically responsive to African American students and AAE speakers. To help with the authenticity of the reading passages, language arts activities and challenges'

culturally and linguistically responsiveness, they were reviewed by several African American scholars in the fields of Multicultural Special Education and Linguistics as well as other African Americans from different regions of Texas, e.g. two African American scholars in the field of Multicultural Special Education, one scholar in the field of Linguistics with a research interest in African American English, and four African Americans from different areas (e.g., one from a rural area , two from urban areas and one from a suburban area in Texas).

Recommended Features

Research-based recommended features of CAI and CRT were incorporated to facilitate the delivery of systematic reading and language arts instruction in several ways: (a) providing learner control; (b) providing culturally and linguistically responsive reading passages and language arts activities, e.g., passages and activities that reflect students' prior knowledge and experiences; (c) providing individualized instruction, e.g., individualized learning pace; and (d) maintaining students' interest and motivation.

Researcher's Role

CARR has been designed as a culturally and linguistically responsive instructional tool, which can be part of both reading and language arts classes. CARR has a function to record student's learning performances. The researcher could monitor and evaluate students' performances, which results in a better understanding student's strengths and difficulties. When researchers and educators can better understand students'

current performance levels, they can design individualized instruction for each student.

Below is a list of the researcher's roles in implementing CARR.

1. The researcher primarily took the role of an assistant and/or facilitator.
2. When students request further instruction on any part of CARR, the researcher provided additional information to those students.
3. The researcher reviewed and evaluated students' data recorded, performances in activities, in order to understand students' strengths and difficulties.
4. When a student showed difficulties in understanding any activity or students demonstrated needs for further instruction on any part of CARR based on the recorded data, the researcher provided additional information to those students.

Pilot Study

The CARR tutorial software was piloted individually with two African American students, one in 3rd-grade and one in 5th grade and two graduate students, one in multicultural special education and the other in special education with a specialization in LD. The two graduate students currently teach at elementary schools in central Texas. The pilot study with the elementary students was conducted to get the viewpoints of possible participating students for the study. The pilot study with the graduate students in special education was conducted to obtain the view points of a teacher. The purpose of the pilot study was to get feedback and suggestions regarding CARR tutorial software, e.g., the content, the overall structure and flow of the program, screen display, navigation,

etc., and to refine and revise CARR tutorial software. Each pilot session lasted approximately 45 minutes. The investigator provided a short introduction to CARR software and asked each participant to work on the CARR software. During each participant's use with CARR software, the investigator asked questions about various aspects of the CARR software.

Research Questions

The research questions that guided the study are stated below.

1. Does the use of CARR result in greater motivation to read for 4th and 5th grade AAE speakers in special education and/or “at-risk” for special education placement who are reading below grade level?
2. Does the use of CARR result in greater academic engagement in reading for 4th and 5th grade AAE speakers who are in special education and/or “at-risk” for special education placement who are reading below grade level?
3. What perceptions do 4th and 5th grade AAE speakers in special education and/or “at-risk” for special education placement who are reading below grade level hold about CARR to improve motivation and academic engagement?

These research questions were devised to further examine the use of culturally- based computer software, CARR, designed specifically to provide culturally and linguistically responsive instruction to motivate and enhance African American students and AAE speakers in reading and language arts. The study also attempted to determine the type of curriculum and instruction materials that appear to be more culturally responsive to

African American AAE speakers in special education. The research questions were also devised to inform educators, who teach this population of students regarding the best practices for motivation and academic engagement. Given that many educators do not have experience, or much professional training, or development with this population, this study examined basic knowledge and skills needed by educators, reading specialists and policy makers in providing curriculum and instruction materials. For example, CRT and CAI, such as the software CARR may be used for African Americans who are AAE speakers in special education.

Research Design of the Study

The present study was primarily evaluative (Gay, 1985). It involved a 12-week open-trial during which the seven students were exposed to CARR. While being exposed to CARR, measures were collected of the students' academic engagement. Academic engagement was operationally defined in terms of three dependent variables: (a) number of attempts to complete the reading and language arts passages, (b) the amount of time the students required to complete each of the 54 passages in CARR, and (c) the percentage of correct answers on the test questions associated with each reading and language arts passage. Rather than looking at the traditional definition and behavior that is associated with academic engagement, behaviors identified by time on-task, the longer a student works on a task the more engaged they are with that task, this study utilizes the three dependent variables to examine students' persistence to complete a task as well as students' desire to move on to the next passage. Therefore, students' academic engagement is measured by students completing the task more quickly and wanting to attempt

more of the same tasks. In addition to the evaluation of CARR in an open-trial, a pre-post design was included to examine whether or not there was any change in level of motivation following the use of CARR. Motivation was assessed pre- and post-CARR using the CARR Reading Motivation Scale. This pre-post design was conducted with six of the seven children because one student (Bobby) entered the program late and could not be given the pre-CARR Reading Motivation Scale.

While the design was pre-experimental, evaluative research can provide useful information about the potential value of educational programs (Gay, 1985). In addition, the 12-week open trial was suited to the classroom setting and applied nature of the study. In classrooms lessons are typically provided at a pre-determined time and intensity. For example, students might receive a 12-week lesson that occurs in 25-30 minute daily lessons. To increase the applied relevance of CARR, it was therefore important to evaluate how students responded to it when given a similar trial with a similar level of intensity (i.e., 25-30 minutes lessons, four times per week for 12 weeks). Thus the evaluation was designed so as to be consistent with the way that CARR might actually be used by teachers in classroom settings.

Because another purpose of the study was to evaluate the students' perceptions of using CARR, a qualitative component was included in the study design. This qualitative component involved conducting structured interviews with each of the children. The interview protocol was designed to enable the students to indicate their perceptions on CARR, such as whether they liked it and found it interesting. The interviews were also designed to solicit feedback from the students that might be useful in revising aspects of CARR. The interview guide may be found in the appendix.

Because CARR is novel and has not yet been evaluated, it was deemed important to initially provide a more descriptive evaluation of its use during an open classroom trial. Existing research and literature focusing on culturally responsive learning environments served as foundations for this evaluative design and the associated methodology. Still, there is background literature to suggest that the use of culturally responsive content within CARR would represent an effective approach, at least in terms of motivating and engaging these students. Several contemporary views of learning have emphasized the importance of attending to the influence of culture on cognitive functioning (Gallego & Cole, 2001; Gardner, 1991; Lee & Smagorinsky, 2000; Wertsch, 1991.) Gallego and Cole (2001), Gardner (1991), Lee and Smagorinsky (2000), and Wertsch (1991), draw on a body of research that focused on the learning environment that has not only shown the significance of culture, but also demonstrated that culturally congruent learning environments can enhance cognitive skills (Au, 1994; McCarty, 1994; Moll, 1990; Tharp, 1989). While these studies took into account students' cultural backgrounds, they are generally ethnographic studies in which there has been less emphasis on documenting students' responses to culturally relevant content in terms of operationally defined behaviors (e.g., motivation and engagement). This study is therefore somewhat more rigorous in that it included objective measures of motivation and engagement and included some control with the pre-post design. Data from the open trial and from the pre-post measures of motivation were supplemented with additional qualitative data, which together were viewed as one way of trying to obtain a useful preliminary evaluation of CARR.

Participants

Seven students were recruited for this study from an elementary school in Central Texas. Ten teachers and the school principal expressed concerns about students being unmotivated and academically unengaged. Criteria for inclusion in this research were: (1) African American students from grades 4th-5th ; (2) classified as AAE speakers determined by informal measures of oral language samples; and (3) receiving services in Special Education and /or at risk for special education placement. Because some of the students in this study were in special education, they had updated assessment scores and school records that may have helped to provide a more detailed description for the students' background and academic history. However, I was not allowed to review these records. Therefore, these students were accepted into the study based solely on the descriptions of their special education qualifications provided by their teachers. In addition the students reading levels could not be determined.

Descriptive Data for Each Participant

The 7 participants are described as follows: Adina was a 10 year old 5th grader in Special Education for a Speech and Language Impairment and reading below grade level at the beginning of this study. She was found to be an AAE speaker by informal assessments. Chameka was a 10 year old 5th grader in Special Education for a Speech and Language Impairment and reading below grade level at the beginning of the study. She was found to be an AAE speaker from informal assessments. Dre was an 11 year old 5th grader "at-risk" for Special Education placement. He was reading below grade level at the beginning of this study. Dre was found to be an AAE speaker from informal

assessments. Paul was an 11 year old 5th grader reading below grade level at the outset of the study. He was found to be an AAE speaker from informal assessments. Bobby was a 9 year old 4th grader in Special Education for Emotional and Behavior Disorder and reading below grade level at the beginning of this study. He was not assessed for features or characteristics common to the AAE language variety before the commencement of the study because he started the study during the intervention phase. However, features of AAE were noted throughout his verbal interactions during the intervention phase of the study. Additionally, he was nominated by his teacher to be a participant in the study because she perceived him to be unmotivated and academically unengaged. Janette was a 10 year old 4th grader that was “at –risk” for placement in Special Education for Mental Retardation but did not qualify when the study commenced. After the study Janette was being assessed for a Learning Disability. She was found to be an AAE speaker from informal assessments. Bradley was a 9 year old 4th grader reading below grade level at the beginning of this study. He was found to be an AAE speaker from informal assessments. Descriptive data for students are shown in Table 3.1.

Table 3.1

Descriptive Data for Each Student

Student	Age	Grade	Disability
Adina	10	5 th	Speech and Language Impairment
Chameka	10	5 th	Speech and Language Impairment
Dre	11	5 th	Reading below level
Paul	11	5 th	Reading below level
Jannette	10	4 th	Assessed for Mental Retardation & Learning Disability
Bobby	9	4 th	Emotional & Behavioral Disorders
Bradley (KC)	9	4 th	Reading below level

Descriptive Features of Participants' Language

Students were assessed with informal measures to determine if they were AAE speakers. For example, language samples were collected within a variety of naturalistic communication contexts with a variety of conversational partners for students and were analyzed for features common to the linguistic styles of AAE speakers (Craig & Washington, 1994; 2000). These informal measures were administered and conducted by the author. First, the informal assessment phase of the study began with students selected for the research that were thought to be AAE speakers by their teachers and in special education or “at-risk for special education. These informal assessments verified if students were AAE speaker. Students were shown culturally responsive pictures and asked to look at the pictures and select their favorite. They were then asked to think of a title that best described the picture. Students then had to come up with a brief story about what they thought the picture was about. The author audio recorded students’ responses and stories. The students’ responses and stories were analyzed for features and characteristics of AAE. Because both Adina and Chameka have a Speech and Language Impairment (SLI) this could affect their use of AAE and they might not look like a typically developing AAE speaking child. Research has not shown the extent to which SLI affects the use of AAE (Washington & Craig, 1999). However, a general description of patterns in other study participants’ speech in the study speech were 3rd person singular (e.g. He run), the zero auxiliary be form (e.g. He running; He nice), and phonology. The other patterns found were habitual *be*, remote past BIN, verbal marker *finna* and preterite

had which are unique to African American English. These students were identified as AAE speakers not only because they used patterns such as 3rd person singular but because they also used verbal markers such as habitual *be*, remote past BIN, and *finna*, which are used in AAE more often than any other variety of English (Green, 2002). The feature analysis also shows that the participants used these patterns consistently, in the correct environment and on a variety of occasions. Previous research has looked at dialect diversity to determine the number of non-standard and AAE features that children use (Washington & Craig, 1999). The method utilized in this study is designed to determine which speakers understood the rules of AAE, not just to determine the number of features utilized by participants. Because the verbal markers are clearly a part of the grammar of AAE, if a student utilizes them correctly it is clear that he/she understands the rules of AAE. Following are examples of AAE features used by participants of the study. Specific features of AAE for each student are shown in Table 3.2

Table 3.2**Descriptive Language Features of Students**

Student	Features of AAE
Dre	Verbal markers: <i>be</i> , <i>BIN</i> , <i>den</i> I <i>be</i> listening for the bus. I <i>BIN</i> going to this school. I <i>den</i> moved to Ms. Scott reading class.
Paul	Verbal markers: <i>be</i> , <i>BIN</i> ; Preverbal marker: <i>finna</i> ; Preterite <i>had</i> I <i>be</i> playing football with my cousin. I <i>BIN</i> playing football. We <i>finna</i> go back for Christmas. I <i>had</i> made a touchdown.
Jannette	Verbal marker: <i>be</i> My daddy work at night. He <i>be</i> at home during the day.
Bobby	zero auxiliary <i>be</i> form They Ø talking too much.
Bradley (KC)	Verbal marker: <i>be</i> , <i>BIN</i> I <i>be</i> reading at home with my momma. I <i>BIN</i> at this school.

Materials

CARR: Reading Motivation Scale

Several measurement tools were used in the assessment process of this study. The CARR: Reading Motivation Scale was utilized. The CARR: Reading Motivation Scale (CARR: RMS) was modeled after the *Motivations for Reading Questionnaire* developed by Allan Wigfield and John T. Guthrie from the *University of Maryland*. The Motivation for Reading Questionnaire is a multidimensional measurement intended to assess participants' motivation for reading. It has been used in several experiments related to intrinsic and extrinsic reading motivation (e.g., Baker, & Wigfield, 1999; Wang, & Guthrie, 2004; Wigfield & Guthrie, 1997; Wigfield, Guthrie, Tonks, & Perencevich, 2004). An 82-item scale was developed to measure seven dimensions, with several items assessing each dimension. The instrument assesses participants' Reading Efficacy, Reading Challenge, Curiosity, Aesthetic Enjoyment, Recognition, Social, and Competition. The dimensions Curiosity and Aesthetic Enjoyment assess intrinsic motivation and were used in the development of the CARR: Reading Motivation Scale. The Motivation for Reading Questionnaire consists of varied numbers of items from these subscales, all of which have been shown to be factor analytically coherent and stable across a variety of tasks, conditions and settings. The general criteria for inclusion of items on each scale were coherent with values greater than .70. It is rare that all items have been utilized in a particular study. Researchers have chosen the subscales that are relevant to the issues they are exploring (Wigfield & Guthrie, 2000). One hundred and

five 4th and 5th grade children completed the scale. By using a modified version of Wigfield and Guthrie's Reading Motivation Scale, this created an opportunity for an increased level of credibility essential to data collection (Patton, 1990) by providing a more reliable and valid instrument.

In developing the *CARR: Reading Motivation Scale* research was utilized from the areas of multicultural education, culturally responsive teaching and reading motivation literature. The set of possible dimensions or constructs that could comprise reading motivation and developed items to measure those constructs were used from the *Motivations for Reading Questionnaire* developed by Wigfield and Guthrie and an additional dimension was added to measure responsiveness to culturally and linguistically responsive materials. Because the CARR: Reading Motivation Scale utilized the subscales that measured intrinsic and extrinsic motivation from The Motivation for Reading Questionnaire it provided validity and reliability on questions that corresponded to those subscales. Items that corresponded with the subscale of responsiveness to culturally and linguistically responsive materials were developed by the author and did not under go a factor analysis. In factor analysis, the determination of whether an item helps define a dimension is made by looking at the factor loadings of the different items (Rubenstein, 1986; Morrison, 1990). This method was not adhered to the subscale of responsiveness on the CARR: Reading Motivation Scale due to time constraints of the study.

The Pre-CARR: RMS is a 57-item scale developed to measure students' motivation for reading and responsiveness to culturally and linguistically responsive

materials and instruction. Items on the CARR: RMS are divided into three subtests Motivation, Responsiveness and Miscellaneous. Items on the CARR: RMS that correspond with motivation are 1, 2, 3, 4, 5, 6, 9, 12, 14, 17, 19, 20, 22, 23, 25, 26, 27, 28, 32, 34, 36, 38, 40, 43, 44, 46, 47, 48, 50, 54, 57. Items that correspond to responsiveness on the CARR: RMS are 7, 8, 11, 13, 15, 16, 18, 24, 29, 30, 31, 33, 35, 37, 39, 41, 42, 49, 51, 52, 53, 55. Items 10, 21, 45, 56 are miscellaneous items and have NO value.

The highest score participants could receive from the Pre-CARR: RMS on the component of motivation was a score of 124, the levels of motivation range from low motivation in reading to high motivation in reading (scores of 1-24 low motivation in reading, 25-47 mild motivation in reading, 48-71 moderate motivation in reading and 72-124 high motivation in reading). For the component of Responsiveness from the Pre-CARR: RMS the highest possible score was 88. The levels of responsiveness to culturally and linguistically relevant materials and instruction range from low responsiveness to high responsiveness (scores of 1-22 low responsiveness, 23-44 mild responsiveness, 45-66 moderate responsiveness and 67-88 high responsiveness to culturally and linguistically relevant materials and instruction). CARR: Reading Motivation Scale's levels chart is provided in Table 3.3.

Table 3.3

CARR: Reading Motivation Scale's Levels of Measurement

Levels	Motivation	Responsiveness
Low	1-47 points	1-22 points
Mild	48-71 points	23-44 points
Moderate	72-96 points	45-66 points
High	97-124 points	67-88 points

Culturally and Linguistically Responsive Reading

The intervention, Culturally And linguistically Responsive Reading (CARR) tutorial software, was designed based on research that incorporates strategies to motivate African American students in reading and language arts and to improve students' motivation to read and academic engagement. The students worked with the CARR tutorial software during their morning reading program. The CARR tutorial software was developed to be culturally and linguistically responsive to African American students as well as compatible with the state mandated curriculum of the Texas Essential Knowledge and Skills (TEKS). This curriculum is the foundation of the state accountability test Texas Assessment of Knowledge and Skills (TAKS). CARR specifically addressed 3rd, 4th and 5th grade TEKS language arts and reading objectives.

The tutorial has levels based on the 3rd to 5th grade TEKS reading and language arts objectives. Each level has reading passages and activities for students to complete. CARR produces a progress report, which contains the level number of the passage and/or

activity, percentage of correct answers, the number of items missed and the length of time it took to complete a passage.

Setting and Context

A public elementary school located in Central Texas was chosen as the instruction and evaluation site. The school was selected because of the relatively high percentage of African American students enrolled. The district provided schools in its region with 14% or more African American students on their campuses. The researcher contacted principals from the schools. After meeting with the principals of the different campuses, the schools who had principals and teachers who were interested in this line of research and willing to provide the necessary support were selected for the research site.

The instruction and evaluation of the study was conducted daily with each session lasting 25-30 minutes during the school's morning reading program between 8:00 -8:25 for 5th graders and 8:00-8:30 for 4th graders in the school's computer lab. Potential benefits for conducting the study during the morning reading program included familiarity with participants' daily schedules, as well as opportunities to work with students shortly before receiving their traditional reading instruction in their classrooms.

Procedures

IRB and District Approval

This study was submitted for approval to conduct research to *The University of Texas at Austin* Internal Review Board (IRB). Additional approval was obtained by the district where the research was conducted. An application for permission to conduct research was filed with the district's accountability department and approved. The IRB application can be found in the appendix.

Parental Consent

The parents of the students who met the inclusion criteria were contacted by the school's principal. The purpose of the study was explained thoroughly to principals, teachers, parents and students of the selected campus and the CARR tutorial software was demonstrated to teachers and students. Parents interested in their child participating received a letter and consent form explaining the terms and conditions of the study. It was emphasized to participants and participants' parents/guardians that they were under no obligation to join the study and were free to withdraw from participation at any time. Student's whose parents wanted their children to participate and had turned in their consent forms for the study were then assessed to ensure selection criteria were met. First an informal assessment tool was administered to help to determine if students had features of AAE. If any feature was found in the students' language variety they were determined to be an AAE speaker. The pre-test stage of the study, participants were administered the Pre-CARR: RMS, which measured students' motivation to read, their

opinions about reading, using the computer and what types of reading materials were of interest to them as well as participants' opinions on what they would like their reading and language arts instruction to include. Second, students were given numbers ranging from 1 to 7. All seven students were given CARR. The CARR tutorial software was implemented to students during 60 daily, 25-30-minute sessions for a total of 12 weeks. For this study motivation was measured by a pre and post administration of the CARR: RMS. Academic engagement was measured by several variables such as the number of attempts students took to get through a lesson, the percentage of responses correct and/or completed successfully and the length of time to complete passages. After completion of the 12 weeks intervention, participants were administered the Post-CARR: RMS. This provided an avenue to compare if students responded the same to the Pre-CARR: RMS before and after using the CARR intervention.

Implementation of CARR

CARR was conducted in three phases: Phase 1: pre-test, which was represented by students' measures from the Pre-CARR: RMS; Phase 2: intervention which was CARR, with the intervention replicated across all 7 participants; and Phase 3: re-assessment with the CARR: RMS.

Pre-Test

The pre-test phase for each student consisted of assessing students with the Pre-CARR: RMS. The CARR: RMS was utilized to measure students' motivation in reading and students' responsiveness to culturally and linguistically relevant materials and

instruction. The students were asked a total of 57 items from the scale and their responses were recorded. A pre-test session began when the author began reading question one from the CARR: RMS. It took approximately 25-30 minutes during each student's session to complete the CARR: RMS. At this point students' were introduced to the CARR intervention.

Intervention

The CARR tutorial software served as the intervention and was administered across 7 students. CARR has reading passages and language arts activities based on the 1st- 5th grade TEKS reading and language arts objectives. Each level has 3-4 reading passages one language arts activity and one AAE vocabulary challenge with a total of 15 levels and 54 passages and activities for students to complete. At the end of each lesson of CARR, a progress report that contained the percentage of correct answers and missed items was provided. The intervention was implemented for a 12-week period, which included 60, 25 minute sessions for 5th graders and 30 minute sessions for 4th graders.

Post-Test

After the intervention, students' motivation was re-assessed with the Post-CARR: RMS. The Post-CARR: RMS was utilized to measure students' motivation in reading and students' responsiveness to culturally and linguistically relevant materials and instruction after the use of CARR. The students were again asked the same 57 questions from the Pre-CARR: RMS and their responses were recorded. The post-test session

started when the author began reading question one from the Post-CARR: RMS. It took approximately 25-30 minutes during each student's session to complete the CARR: RMS. Students' perceptions of the CARR software then were collected by an informal interview on students' opinions about the CARR and its use.

Participant Interviews

Student's interviews were open-ended. Open-endedness refers to the structure of the interview that provides a type of social understanding in which the true internal voice of the subject will come through when it is not externally screened or communicatively constrained (Atkinson & Silverman, 1997; Gubrium & Holstein, 2002). The purposes of the interviews were to give the participants the opportunity to express their opinions about reading and about using the computer and about the types of reading materials of interest to them. The success of unstructured open-ended interviews relied on participants' vested interest in the topic and ability to continue the conversation with little prodding (Morgan, 2001), however, because of the participants ages, if there was a lapse in the interview discussion, the interviewer asked additional questions that precipitated students' discussion. The need for credibility and accuracy with participants' perceptions of the study can be impacted by the interviewer's personal background (Patton, 1990); therefore the interviewer used a modified version of a pre-existing interview evaluation questionnaire developed by Lexia Reading Program from the *University of Texas at Austin*.

The interviews lasted approximately 45 minutes in an unoccupied classroom during the participant's morning reading program. Data was collected with the interview evaluation questionnaire. Audio recorders with microphones were used and notes were also taken during the implementation of the interviews to augment data collection (Patton, 1990). The developed interview evaluation questionnaire was used as instruments to collect data. It was given to students after post-test measures. A copy of the interview evaluation questionnaire is in the Appendix.

Data Collection

The author administered the CARR: RMS to students in the study. Before and after the 12-week intervention, each student was individually assessed with the CARR: RMS in an unoccupied classroom. After the 12-week intervention, each student in the study was individually interviewed by the author. The session began with the purpose of the interview and confidentiality of students' responses was explained. Each interview lasted approximately 25-30 minutes.

Data Analysis

Pre/Post-Test Data Analysis

Pre and Post tests with the CARR: RMS was employed to compare students' reading motivation and responsiveness to culturally and linguistically responsive materials and instruction before and after the intervention.

Interview Data Analysis

Students' interviews were audio-recorded and transcribed. The interview data was analyzed using open coding. According to Strauss and Corbin (1990), open coding is the "process of breaking down, examining, comparing, conceptualizing and categorizing data" (p.61). The author during the open coding process read and re-read interview transcripts to identify themes in the data and put those themes into categories. Students' original quotes were utilized as evidence to support themes in the data.

Response Definitions and Measurement

There are two dependent variables that were evaluated in this study. The first dependent variable was motivation, which was measured by the pre and post interviews with the CARR: RMS. The second dependent variable was academic engagement, which is operationally defined as the number of attempts to complete CARR passages, length of time it took student to get through CARR passages and the percentage of correct responses correct on CARR passages.

Inter-Observer Agreement

The present study was primarily evaluative (Gay, 1985). It involved a 12-week open-trial during which the seven students were exposed to CARR. A pre-post design was included to examine whether or not there was any change in level of motivation following the use of CARR. Academic engagement was calculated based on the number

of attempts, length of time to complete CARR passages and percentage of correct answers on CARR passages. Inter-observer agreement was determined by having two assessors independently check for accuracy by looking over at least 50% of the computer results of students' answers to determine if calculations were correct. Each assessor was trained by the author of the study on each of the three variable of academic engagement. Inter-observer agreement on 50% of the computer results was 100%.

CHAPTER 4

RESULTS

This research examined the effects of culturally based computer software on the reading motivation and academic engagement of 4th and 5th grade AAE speakers in special education and/or “at-risk” for special education reading below grade level. The present study was primarily evaluative (Gay, 1985). It involved a 12-week open-trial during which the seven students were exposed to CARR. While being exposed to CARR, measures were collected of the students’ academic engagement. Additionally, a qualitative component focusing on participant interviews was employed after the use of CARR. The intervention was conducted with all participants for a total of sixty, 25-30 minute sessions. The sessions were held in the students’ morning reading periods from 8:00 am until 8:25 for fifth graders and 8:00 am until 8:30 for fourth graders. Additionally, students were interviewed before and after the intervention using the CARR: RMS to elicit student’s motivation for reading.

Research Question 1: Does the use of CARR result in greater motivation to read for 4th and 5th grade AAE speakers in special education and/or “at-risk” for special education placement who are reading below grade level?

Research Question 2: Does the use of CARR result in greater academic engagement in reading for 4th and 5th grade AAE speakers who are in special education and/or “at-risk” for special education placement who are reading below grade level?

Research Question 3: What perceptions do 4th and 5th grade AAE speakers in special education and/or “at-risk” for special education placement who are reading below grade level hold about CARR to improve motivation and academic engagement?

This chapter consists of four sections. The first section presents the findings from an analysis of student’ pre-tests with the CARR: RMS; the second section provides results of testing intervention effects; the third section provides the findings from an analysis of student’s post-tests with the CARR: RMS; and finally interviews on students’ perception of CARR.

Analysis of Pre-Test Data, Intervention Effects & Post-Test Data

Pre-test Data

The pre and post data were collected by the CARR: RMS to measure students’ motivation in reading and responsiveness to culturally and linguistically relevant materials and instruction. The highest score participants could receive from the Pre-CARR: RMS on the component of motivation was a score of 124. The levels of motivation ranged from low motivation for reading to high motivation for reading (scores of 1-24 low motivation for reading, 48-71 mild motivation for reading, 72-96 moderate motivation for reading and 97-124 high motivation for reading). For the component of responsiveness from the Pre-CARR: RMS the highest possible score was 88. The levels of responsiveness to culturally and linguistically relevant materials and instruction ranged from low responsiveness to high responsiveness (scores of 1-22 low responsiveness, 23-

44 mild responsiveness, 45-66 moderate responsiveness and 67-88 high responsiveness to culturally and linguistically relevant materials and instruction). CARR: RMS levels table is provided in Table 4.1.

Table 4.1

CARR: Reading Motivation Scale's Levels of Measurement

Levels	Motivation	Responsiveness
Low	1-47 points	1-22 points
Mild	48-71 points	23-44 points
Moderate	72-96 points	45-66 points
High	97-124 points	67-88 points

The Pre-CARR: RMS had 57 questions, which gave the participants the opportunity to express their opinions about reading, using the computer and what types of reading materials were of interest to them.

Post-Test Data

The Post-CARR: RMS was utilized after the CARR intervention to not only measure students' motivation and responsiveness to culturally and linguistically relevant materials and instruction after the 12-week intervention which, provided students with culturally and linguistically responsive reading and language arts passages, but also to see if students motivation for reading would change from their pre-CARR level. The Post-

CARR: RMS had 57 questions, which gave the participants the opportunity to express their opinions about reading, using the computer and what types of reading materials were of interest to them. The highest score participants could receive from the Post-CARR: RMS on the motivation component was a score of 124 and for the component of responsiveness the highest possible score was 88.

Pre–Post Comparison

The CARR intervention began with a 25-30 minute training session during which the participants received instructions on how to use the CARR software. Following the training session the participants were given instructions that they would follow for the 12 week duration of the study. The intervention sessions began in students' morning reading classes daily (Monday through Thursday from 8:00-8:25 for 5th graders and 8:00-8:30 for 4th graders). Students logged onto CARR every morning and were asked to complete as many reading passages and language arts activities within their 25 and 30 minute reading sessions.

Intervention began on level one of the software with reading passages and language arts activities on the first grade reading level. Data was recorded for the entire 25 and 30 minute sessions. Each passage or activity the student completed was recorded as was the percentage of correct answers, the length of time to complete passages and the number of attempts to complete a passage. This data helped to substantiate and calculate students' academic engagement with the CARR intervention.

Results from Study

Adina

Adina was a 10 year old 5th grader in Special Education for a Speech and Language Impairment and reading below grade level at the beginning of this study. During school hours, she receives therapy from a speech pathologist twice a week for 30 minutes. However, Adina did not have updated school records. She was new to the school and they had not received her school records at the commencement of the study. During the Pre-test Adina's motivation score as measured by the CARR: RMS was 97 out of a total of 124, which gave her a level of high reading motivation at the commencement of the study. Her level of responsiveness to culturally and linguistically relevant materials and instruction was 61 out a possible score of 88. This gave her a level of moderate responsiveness to culturally and linguistically relevant materials and instruction at the beginning of the study.

Intervention began on level one of the software with reading passages and language arts activities on the first grade reading level. There were a total of 54 language arts and reading passages that could be attempted in CARR. Adina attempted 26 passages out of 54. With the CARR intervention frequent attempts to pass and/or complete a passage showed engagement in that passage. She attempted several passages more than once. These passages are as follows: reading passage number 1: *Tuskegee University* twice, reading passage 11: *School Clothes Shopping* 4 times, language arts passage 12:

Homonyms 3 times, reading passage 13: *Jennifer Lopez* 3 times, reading passage 15: *Princess Tengenworq* 3 times, language arts passage 16: *Parts of Speech* 7 times, reading passage 17: *The Nubians* 3 times, reading passage 19: *Sarah Breedlove* 6 times, reading passage 20: *Nelly* twice, reading passage 23: *Michael Jordan* 3 times and language arts passage 25: *Subject Verb Agreement* twice. She tended to attempt passages over that reflected African and African American people who were historical figures.

With the CARR intervention, the less time it took Adina to complete passages showed more of a level of engagement. Adina showed engagement on passages and activities that were written in African American English. Adina completed a total of 8 passages written in African American English in 82.39 minutes compared to 8 passages and activities written in classroom English, which she completed in 220.45 minutes. Additionally, she obtained a higher percentage of correct answers on passages in AAE than passages in classroom English. For example, she got 92.5% correct on AAE passages as compared to 70.4% correct on classroom English passages.

She also showed engagement on passages about famous African American historical figures. Adina completed 10 passages about famous African American historical figures in 108.01 minutes compared to 9 passages about current famous African Americans in 142.60 minutes. She completed 9 passages about events or things in the African American community in 109.77 minutes compared to 8 passages about people in 250.61 minutes. While completing 7 passages that focused on African culture in 98.82 minutes, Adina completed 7 passages that focused more on African American culture in 234.64 minutes.

On average she obtained a higher percentage of correct answers on passages and activities that focused on events or things in the African American community. The percentage of correct answers on passages and activities that focused on events and things in the African American community was 77%. Adina did not do as well on passages and activities that focused on people and, more specifically, current famous African Americans; her percentage of correct answers on these passages was 68%.

Her reading motivation after the CARR intervention as measured using the Post-CARR: RMS was 96 decreasing one point from her pre-motivation score, however changing Adina's level of motivation from high motivation for reading to a level of moderate motivation for reading. Adina's level of responsiveness to culturally and linguistically relevant materials and instruction after the CARR intervention as measured using the Post-CARR: RMS was 59 decreasing 2 points from her pre-responsiveness score, however keeping her at the same level of moderate responsiveness to culturally and linguistically relevant materials and instruction.

Chameka

Chameka was 10 year old 5th grader in Special Education for a Speech and Language Impairment and reading below grade level. During school hours, she met with a speech pathologist twice a week for 30 minutes at the commencement of the study.

During the Pre-test Chameka's motivation score as measured by the CARR: RMS was 77 out of a total of 124, which gave her a level of moderate reading motivation at the commencement of the study. Her score on responsiveness to culturally and linguistically

relevant materials and instruction was 54 out of a total of 88, which gave her a level of moderate responsiveness to culturally and linguistically relevant materials and instruction at the beginning of the study.

Intervention began on level one of the software with reading passages and language arts activities on the first grade reading level. There were a total of 54 language arts and reading passages that could be attempted in CARR Chameka attempted 50 passages out of 54. With the CARR intervention, frequent attempts to pass and/or complete a passage showed engagement in that passage. Several passages she attempted more than once. These passages are as follows: language arts passage number 8: *Added Endings* twice, reading passage 10: *Kenya's Trip to the Beauty Shop* 2 times, language arts passage 12: *Homonyms* 2 times, reading passage 13: *Jennifer Lopez* 2 times, reading passages 14: *Ghana*, reading passage 15: *Princess Tengneworq* 3 times, language arts passage 16: *Parts of Speech* 3 times, reading passage 19: *Sarah Breedlove* 2 times, reading passage 20: *Nelly* twice, reading passage 23: *Michael Jordan* 4 times, reading passage 24: *Double Dutch* 2 times, reading passage 40: *FUBU*, reading passage 44: *Botswana* twice, reading passage 45: *Nine African Americans* 7 times, reading passage 46: *Ragtime, Jazz and Blues* 2 times, reading passage 47: *Malcolm X* 9 times, reading passage 49: *Supreme Court Attacks* 6 times and reading passage 50: *Black Cowboys* 7 times. She also tended to attempt passages over that reflected famous current and historical figures who were African American and passages that were about events or things in the African American community.

With the CARR intervention, the less time it took Chameka to complete passages showed a higher level of engagement. Chameka showed engagement on passages and activities that were written in AAE. Chameka completed a total of 8 passages written in AAE in 65.36 minutes compared to 8 passages and activities written in classroom English, which she completed in 116.72 minutes. Additionally, she obtained a higher percentage of correct answers on passages in AAE than passages in classroom English. For example, she got 87% correct on AAE passages compared to 73% correct on classroom English passages.

She also showed engagement on passages about current famous African Americans. Chameka completed 9 passages about current famous African Americans in 110.23 minutes compared to 10 passages about famous African American historical figures in 208.23 minutes. She completed 9 passages about events or things in the African American community in 87.19 minutes compared to 8 passages about people in 207.66 minutes. While completing 7 passages that focused on African culture in 92.02 minutes, Chameka completed 7 passages that focused more on African American culture in 97.87 minutes.

On average she obtained a higher percentage of correct answers on passages and activities that focused on events or things in the African American community. The percentage of correct answers on passages and activities that focused on events and things in the African American community was 82%. Chameka did not do as well on passages and activities that focused on people and, more specifically, famous African

American historical figures. Her percentage of correct answers on these particular passages was 60%.

Her reading motivation after the CARR intervention as measured by the Post-CARR: RMS was 93, which increased a total of 13 points from her pre-motivation score. This moved her reading motivation level from moderate to high motivation for reading. Chameka's level of responsiveness to culturally and linguistically diverse materials and instruction after the CARR intervention as measured by the Post-CARR: RMS was 66, which increased a total of 12 points from her pre-responsiveness score. However, this kept her level of responsiveness to culturally and linguistically relevant materials and instruction at the moderate level of responsiveness.

Dre

Dre was 11 years old 5th grader reading below grade level at the commencement of the study. He attended the school of the study for his 3rd, 4th and 5th grade years. He was nominated by his homeroom 5th grade teacher to participate in the study because of his low reading achievement.

During the pre-test, Dre's motivation score as measured by the CARR: RMS was 88 out of a total of 124, which gave him a level of moderate reading motivation at the commencement of the study. His score for responsiveness to culturally and linguistically diverse materials and instruction was 74 out a possible 88, which put him on the level of high responsiveness to culturally and linguistically relevant materials and instruction in the beginning of this study.

Intervention began on level one of the software with reading passages and language arts activities on the first grade reading level. There were a total of 54 language arts and reading passages that could be attempted in CARR. With the CARR intervention, frequent attempts to pass and/or complete a passage showed engagement in that passage. Dre attempted 30 passages out of 54. Several passages he attempted more than once. These passages are as follows: reading passage number 2: *George Washington Carver* 3 times, reading passage 6: *Baking Cookies* 4 times, reading passage 7: *A Walk to the Park* twice, language arts passage 8: *Added Endings* 3 times, reading passage 10: *Kenya's Trip to the Beauty Shop* 2 times, reading passage 14: *Ghana* 2 times, reading passage 26: *Williams Sisters* 2 times and reading passage 27: *A Visit to Big Momma's House* twice. He also tended to attempt passages over that reflected events and/or things in the African American community.

With the CARR intervention, the less time it took Dre to complete passages showed more of a level of engagement. Dre showed engagement on passages and activities that were written in classroom English. Dre completed a total of 8 passages written in classroom English in 129.52 minutes compared to 8 passages and activities written in AAE, which he completed in 141.50 minutes. Additionally, he obtained a high percentage of correct answers on passages in AAE than passages in classroom English. For example, he got 84% correct on AAE passages as compared to 77% correct on classroom English passages.

Additionally, he completed 7 passages that focused on African culture in 72.96 minutes versus 7 passages that focused more on African American culture in 104.93

minutes. He also showed engagement on passages about famous African American historical figures. Dre completed 10 passages about famous African American historical figures in 46.79 minutes as compared to 9 passages about current famous African Americans in 88.01 minutes. He completed 8 passages about people in 125.03 minutes as compared to 9 passages about events and things in the African American community in 148.33 minutes. He completed reading passages on people more quickly than reading passages on events and things in the African American community. On average he obtained a higher percentage of correct answers (84%) on passages that were about events and things in the African American community than on passages and activities that focused on people, more specifically on passages about famous African American historical figures.

Dre's reading motivation after the CARR intervention as measured using the Post-CARR: RMS was 100, which increased a total of 12 points from his pre-motivation score. This moved his reading motivation level from moderate to high motivation for reading. Dre's level of responsiveness to culturally and linguistically relevant materials and instruction after the CARR intervention as measured using the Post-CARR: RMS was 74, the same as his pre-responsiveness score which kept him at the same level of high responsiveness to culturally and linguistically relevant materials and instruction.

Paul

Paul was 11 year old 5th grader reading below grade level at the onset of the study. He did not have updated school records. Paul just moved from out of state two weeks

before the commencement of the study. His school records had not yet arrived to his new school. During the pre-test, Paul's motivation score as measured by the CARR: RMS was 93 out of a total of 124, which gave him a level of moderate reading motivation in the commencement of the study. His score on responsiveness to culturally and linguistically diverse materials and instruction was 76 out of a possible 88, which gave him a level of high responsiveness to culturally and linguistically relevant materials and instruction in the beginning of the study.

The Carr intervention began on level one of the software with reading passages and language arts activities on the first grade reading level. There were a total of 54 language arts and reading passages that could be attempted in CARR. Paul attempted 50 passages out of 54. With the CARR intervention, frequent attempts to pass and/or complete a passage showed engagement in that passage. Several passages he attempted more than once. These passages are as follows: reading passage number 3: *Garret August Morgan* 4 times, reading passage 9: *The Barber Shop* 2 times, language arts passage 16: *Parts of Speech* 2 times, reading passage 18: *Kwanza* 2 times, reading passage 27: *A Visit to Big Momma's House* 2 times, language arts passage 30: *Irregular Past Tense* 3 times, reading passage 46: *Ragtime, Jazz and Blues* 4 times, reading passage 47: *Malcolm X* 7 times, reading passage 49: *Supreme Court Attacks* twice and reading passage 50: *Black Cowboys* 3 times. He also tended to attempt passages over that reflected events and/or things in the African American community and passages on famous African American historical figures.

With the CARR intervention, the less time it took Paul to complete passages showed engagement. Paul showed engagement on passages and activities that were written in AAE. Paul completed a total of 8 passages written in AAE in 84.95 minutes as compared to 8 passages and activities written in classroom English, which he completed in 93.62 minutes. Additionally, he obtained a high percentage of correct answers on passages in AAE than passages in classroom English. For example, he got 82% correct on AAE passages as compared to 73% correct on classroom English passages.

He also showed engagement on passages about current famous African Americans. Paul completed 9 passages about current famous African Americans in 88.74 minutes as compared to 10 passages about famous African American historical figures in 218.56 minutes. He completed 9 passages about events or things in the African American community in 125.97 minutes compared to 8 passages about people in 197.33 minutes. While completing 7 passages that focused on African culture in 66.80 minutes, Paul completed 7 passages that focused more on African American culture in 211.28 minutes.

On average, he obtained a higher percentage of correct answers on passages and activities on current famous African Americans. The percentage of correct answers on passages and activities that focused on current famous African Americans was 82%. Paul did not do as well on passages and activities that focused on famous African American historical figures. His percentage of correct answers on these particular passages was 72%. Even though Paul completed passages on events and things in the African American community quicker than passage about people, his percentage of correct answers on both types of passages was 79%.

Paul's reading motivation after the CARR intervention as measured by the Post-CARR: RMS was 99 increasing a total of 3 points from his pre-motivation score, which moved Paul to a level of high motivation. Paul's level of responsiveness to culturally and linguistically diverse materials and instruction after the CARR intervention, as measured by the Post-CARR: RMS was 81 increasing a total of 5 points from his pre-responsiveness score. There was no change in the level of responsiveness keeping him at a high level of responsiveness to culturally and linguistically relevant materials and instruction.

Bobby

Bobby was 9 year old 4th grader "at-risk" for special education placement for a Behavior Disorder and reading below grade level at the beginning of this study. He started the study during the intervention phase because it took longer to obtain his parental consent form. Bobby was on a behavioral assessment plan. Every morning the author of the study had to rate Bobby's behavior during Early Morning Reading, which was the setting for the study.

During the pre-test phase of the study, Bobby was absent and does not have a pre-motivation score or a score for responsiveness to culturally and linguistically relevant materials and instruction at the commencement of the study.

The CARR intervention began on level one of the software with reading passages and language arts activities on the first grade reading level. There were a total of 54 language arts and reading passages that could be attempted in CARR. Bobby attempted

35 passages out of 54. With the CARR intervention, frequent attempts to pass and/or complete a passage showed engagement in that passage. Several passages he attempted more than once. These passages are as follows: reading passage number 3: *Garret August Morgan* twice, language arts passage 4: *Punctuation* 2 times, reading passage 10: *Kenya's Trip to the Beauty Shop* 2 times, language arts passage 12: *Homonyms* 3 times, reading passage 14: *Ghana* 3 times, language arts passage 16: *Parts of Speech* 3 times, reading passage 21: *Beyonce and Destiny's Child* 2 times, reading passage 23: *Michael Jordan* 3 times, reading passage 24: *Double Dutch* twice, reading passage 26: *Williams Sisters* 2 times, reading passage 27: *A Visit to Big Momma's House* 2 times, reading passage 28: *Raven Symone* 3 times, reading passage 31: *The History of Hip Hop* 3 times, reading passage 32: *P. Diddy* 12 times, language arts passage 34: *Contractions* twice and reading passage 35: *Usher* twice. He also tended to attempt passages over that reflected current famous African Americans in the content.

With the CARR intervention, the less time it took Bobby to complete passages showed engagement. Bobby showed engagement on passages and activities that were written in AAE. Bobby completed a total of 8 passages written in AAE in 154.94 minutes as compared to 8 passages and activities written in classroom English, which he completed in 174.97 minutes. Additionally, Bobby obtained a higher percentage of correct answers on passages in AAE than passages in classroom English. For example, he got 83% correct on AAE passages as compared to 68% correct on classroom English passages.

Bobby also showed engagement on passages about famous African American historical figures. He completed 10 passages about famous African American historical figures in 79.42 minutes as compared to 9 passages about current famous African Americans in 244.73 minutes. Bobby completed 9 passages about events or things in the African American community in 185.35 minutes as compared to 8 passages about people in 324.15 minutes. While completing 7 passages that focused on African culture in 90.73 minutes, Bobby complete passages that focused more on African American culture in 192.88 minutes.

On average, Bobby obtained a higher percentage of correct answers on passages and activities that focused on events or things in the African American community. The percentage of correct answers on passages and activities that focused on people and, more specifically, famous African American historical figures was 81%. Bobby did not do as well on passages and activities that focused on people that were current famous African Americans. His percentage of correct answers on these particular passages was 62%. The percentage of correct answers on passages and activities that focused on current African Americans and African American historical figures who are famous was 67% while on passages that focused on events and things in the African American community, was 81%.

Bobby's reading motivation after the CARR intervention as measured by the Post-CARR: RMS was 92, which gave him a level of moderate reading motivation. Bobby's level of responsiveness to culturally and linguistically relevant materials and instruction after the CARR intervention as measured by the Post-CARR: RMS was 65,

which gave him a level of moderate responsiveness to culturally and linguistically relevant materials and instruction.

Janette

Janette was 10 year old 4th grader reading below grade level and “at –risk” for placement in Special Education for Mental Retardation but did not qualify when the study commenced. After the study, Janette was still “at-risk” for placement in Special Education but was being assessed for a Learning Disability.

During the Pre-test Janette’s motivation score as measured by the CARR: RMS was 92 out of a total of 124, which gave her a level of moderate reading motivation in the commencement of the study. Janette’s score for responsiveness to culturally and linguistically relevant materials and instruction was 60 out of a possible 88, which put her on the level of moderate responsiveness to culturally and linguistically relevant materials and instruction in the beginning of the study.

The CARR intervention began on level one of the software with reading passages and language arts activities on the first grade reading level. There were a total of 54 language arts and reading passages that could be attempted in CARR. Janette attempted 44 passages out of 54. With the CARR intervention, frequent attempts to pass and/or complete a passage showed engagement in that passage. Several passages she attempted more than once. These passages are as follows: reading passage number 1: *Tuskegee University* 3 times, reading passage 2: *George Washington Carver* 3 times, reading passage 5: *Making Cornbread* 2 times, reading passage 6: *Baking Cookies* 4 times,

reading passage 7: *A Walk to the Park* 6 times, language arts passage 8: *Added Endings* twice, reading passage 9: *The Barber Shop* 3 times, reading passage 10: *Kenya's Trip to the Beauty Shop* 4 times, reading passage 11: *School Clothes Shopping* 3 times, reading passage 13: *Jennifer Lopez* 2 times, reading passage 14: *Ghana* 5 times, reading passage 15: *Princess Tengneworq* 3 times, language arts passage 16: *Parts of Speech* 2 times, reading passage 19: *Sarah Breedlove* 3 times, reading passage 21: *Beyonce and Destiny's Child* twice, reading passage 24: *Double Dutch* 7 times, reading passage 27: *A Visit to Big Momma's House* 3 times, reading passage 28: *Raven Symone* 5 times, reading passage 29: *Tia's Braids* 5 times, reading passage 31: *The History of Hip Hop* 3 times, reading passage 32: *P. Diddy* 4 times, reading passage 33: *LL Cool J* 7 times, reading passage 35: *Usher* 5 times, reading passage 37: *Marr Ann Shadd* 3 times, language arts passage 38: *Homonyms Part 2* 3 times, reading passage 39: *Mary Elizabeth Bowser* 7 times, reading passage 40: *FUBU* 10 times, reading passage 41: *Shaquille O'Neal* 11 times, reading passage 42: *Ashanti Culture* 5 times and reading passage 43: *Hair Braiding* 8 times. She also tended to attempt passages over that reflected events and/or things in the African American community and passages on famous African American historical figures.

With the CARR intervention, the less time it took Janette to complete passages showed engagement. She showed engagement on passages and activities that were written in classroom English. Janette completed a total of 8 passages written in classroom English in 146.38 minutes as compared to 8 passages and activities written in AAE, which she completed in 197.72 minutes. Additionally, Janette obtained a higher

percentage of correct answers on passages in classroom English than passages in AAE. For example, she got 63% correct on classroom English passages as compared to 52% correct on AAE passage.

Janette also showed engagement on passages about famous African American historical figures. She completed 10 passages about famous African American historical figures in 103.53 minutes as compared to 9 passages about current famous African Americans in 206.36 minutes. Janette completed 9 passages about events or things in the African American community in 163.09 minutes as compared to 8 passages about people in 309.89 minutes. While completing 7 passages that focused on African American culture in 102.07 minutes, Janette completed 7 passages that focused more on African culture in 135.14 minutes.

On average, Janette obtained a higher percentage of correct answers on passages and activities that focused on people who are both current famous African Americans and famous African American historical figures. The percentage of correct answers on these passages was 61% as compared to 57% percent of correct answers on passages and activities that focused on events and things in African American community. Even though Janette completed passage on events and things in the African Americans community more quickly, in 163.09 minutes, she had a higher of percentage of correct answers on the passage and activities about people, which took her 309.89 minutes.

Janette's reading motivation after the CARR intervention, as measured by the Post-CARR: RMS was 93. It increased a total of one point from her pre-motivation score, which kept her at the level of moderate reading motivation. Janette's level of

responsiveness to culturally and linguistically relevant materials and instruction after the CARR intervention, as measured by the Post-CARR: RMS was 60. The scores remained the same as her pre-responsiveness score, which kept her at the level of moderate responsiveness to culturally and linguistically relevant materials and instruction.

Bradley (KC)

Bradley was 9 year old 4th grader reading below grade level at the beginning of this study. He was nominated by his homeroom teacher for this study because of his reading achievement. Bradley attended the school, which was the study site for both his 3rd and 4th grade years.

During the Pre-test, Bradley's motivation score, as measured by the CARR: RMS was 93 out of a total of 124. This gave him a level of moderate reading motivation in the commencement of the study. His score for responsiveness to culturally and linguistically relevant materials and instruction was 61 out of a possible 88, which put him on the level of moderate responsiveness to culturally and linguistically relevant materials and instruction at the beginning of the study.

The CARR intervention began on level one of the software with reading passages and language arts activities on the first grade reading level. There were a total of 54 language arts and reading passages that could be attempted in CARR. Bradley attempted 47 passages out of 54. With the CARR intervention, frequent attempts to pass and/or complete a passage showed engagement in that passage. Several passages he attempted more than once. These passages are as follows: reading passage number 6: *Baking*

Cookies 3 times, reading passage 7: *A Walk to the Park* 3 times, language arts passage 8: *Added Endings* twice, reading passage 11: *School Clothes Shopping* 2 times, language arts passage 12: *Homonyms* 2 times, reading passage 13: *Jennifer Lopez* 2 times, reading passage 14: *Ghana* 2 times, reading passage 15: *Princess Tengneworq* 5 times, language arts passage 16: *Parts of Speech* 3 times, reading passage 17: *The Nubians* 3 times, reading passage 19: *Sarah Breedlove* 4 times, reading passage 21: *Beyonce and Destiny's Child* 5 times, reading passage 24: *Double Dutch* 3 times, reading passage 33: *LL Cool J* 4 times, reading passage 35: *Usher* 2 times, reading passage 40: *FUBU* 2 times, reading passage 41: *Shaquille O'Neal* twice, reading passage 42: *Ashanti Culture* 3 times, reading passage 43: *Hair Braiding* 2 times, reading passage 44: *Botswana* twice, reading passage 45: *Nine African Americans* 10 times, reading passage 46: *Ragtime, Jazz and Blues* 4 times and reading passage 47: *Malcolm X* twice. He also tended to attempt passages over that reflected events and/or things in the African American community.

With the CARR intervention, the less time it took Bradley to complete passages showed engagement. Bradley showed engagement on passages and activities that were written in AAE. Bradley completed a total of 8 passages written in AAE in 75.77 minutes as compared to 8 passages and activities written in classroom English, which he completed in 114.64 minutes. Additionally, Bradley obtained a higher percentage of correct answers on passages in AAE than passages in classroom English. For example, he got 77% correct on AAE passages as compared to 71% correct on classroom English passages.

Bradley also showed engagement on passages about current famous African Americans. He completed 9 passages about current famous African Americans in 213.90 minutes as compared to 10 passages about famous African American historical figures in 261.34 minutes. Bradley completed 9 passages about events or things in the African American community in 142.48 minutes compared to 8 passages about people in 327.01 minutes. While completing 7 passages that focused on African culture in 104.02 minutes, Bradley completed 7 passages that focused more on African American culture in 118.74 minutes.

On average, Bradley obtained a higher percentage of correct answers on passages and activities that focused on events or things in the African American community and people, more specifically, current famous African Americans. The percentage of correct answers on passages and activities that focused on events and things in the African American community was 74% and current famous African Americans was 67%. Bradley did not do as well on passages and activities that focused on famous African American historical figures. His percentage of correct answers on this particular type of passages was 66%.

Bradley's reading motivation after the CARR intervention as measured by the Post-CARR: RMS was 93. It increased a total of 3 points from his pre-motivation score however; his level of reading motivation did not change. He remained at the level of moderate reading motivation. Bradley's level of responsiveness to culturally and linguistically relevant materials and instruction after the CARR intervention, as measured by the Post-CARR: RMS was 62. This increased a total of one point from his pre-

responsiveness score. However, Bradley stayed at the same level of moderate responsiveness to culturally and linguistically relevant materials and instruction. The data for all seven students are shown in Figures 4.1-4.13.

Figure 4.1

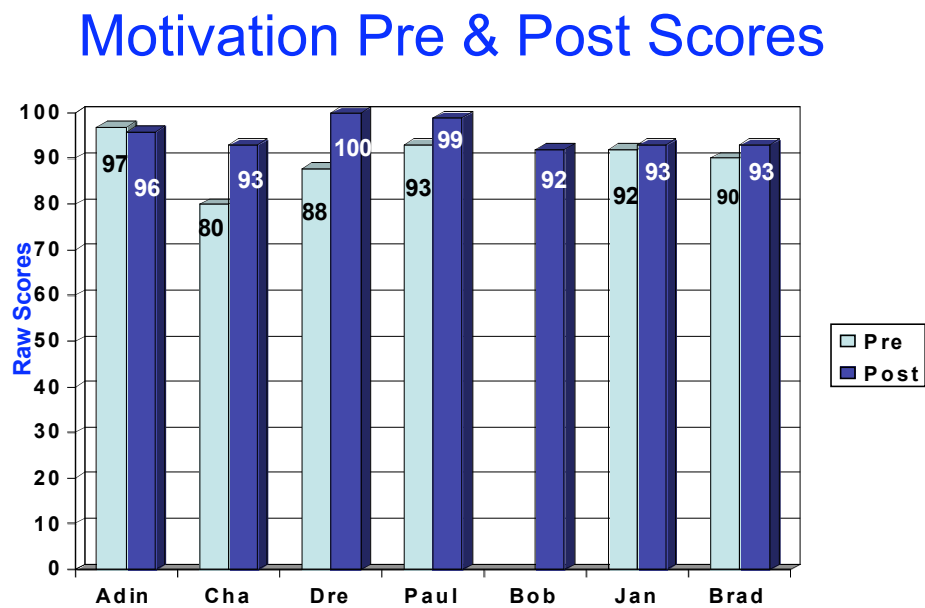


Figure 4.2

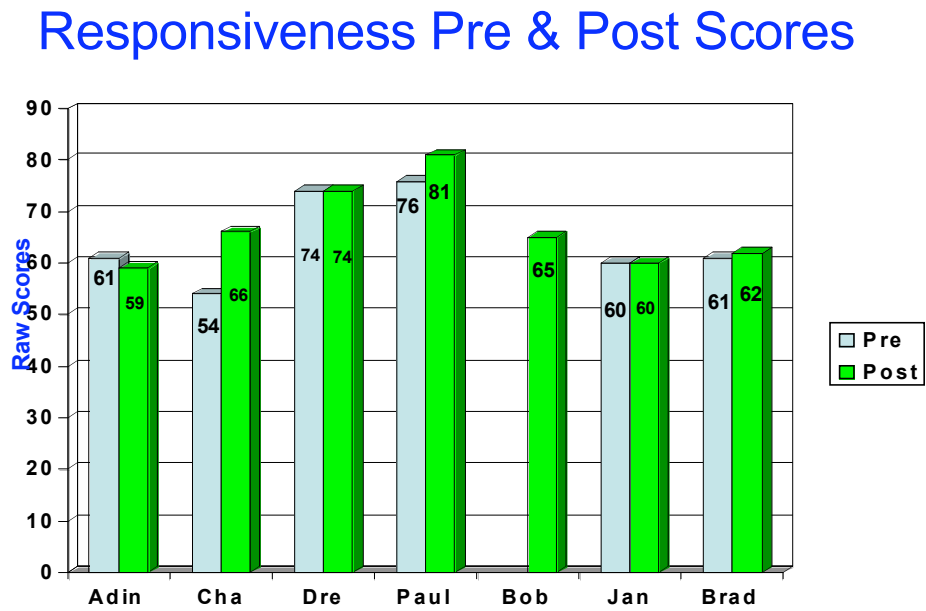


Figure 4.3

Adina & Chameka 's Attempts

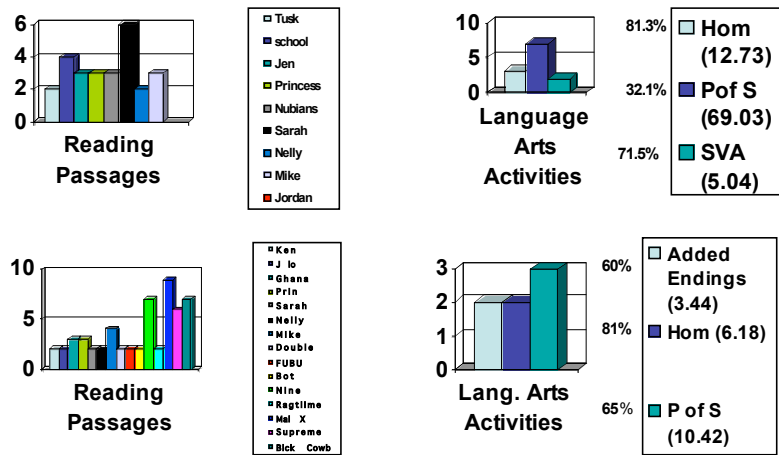


Figure 4.4

Dre & Paul's Attempts

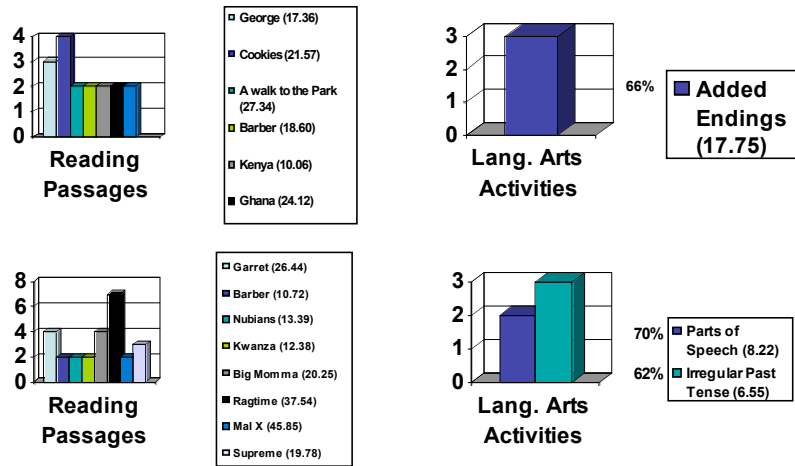


Figure 4.5

Bobby & Bradley's Attempts

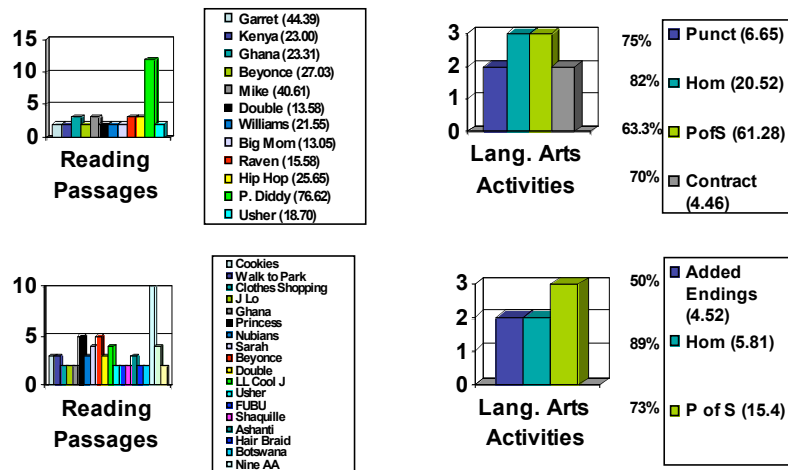


Figure 4.6

Janette's Attempts

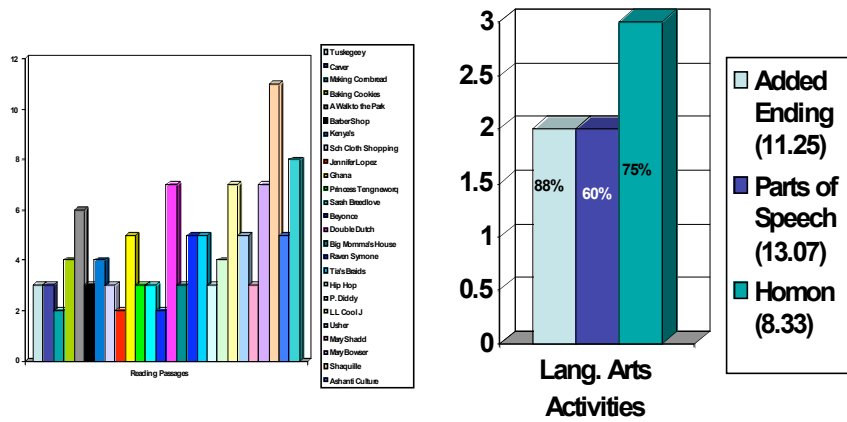


Figure 4.7

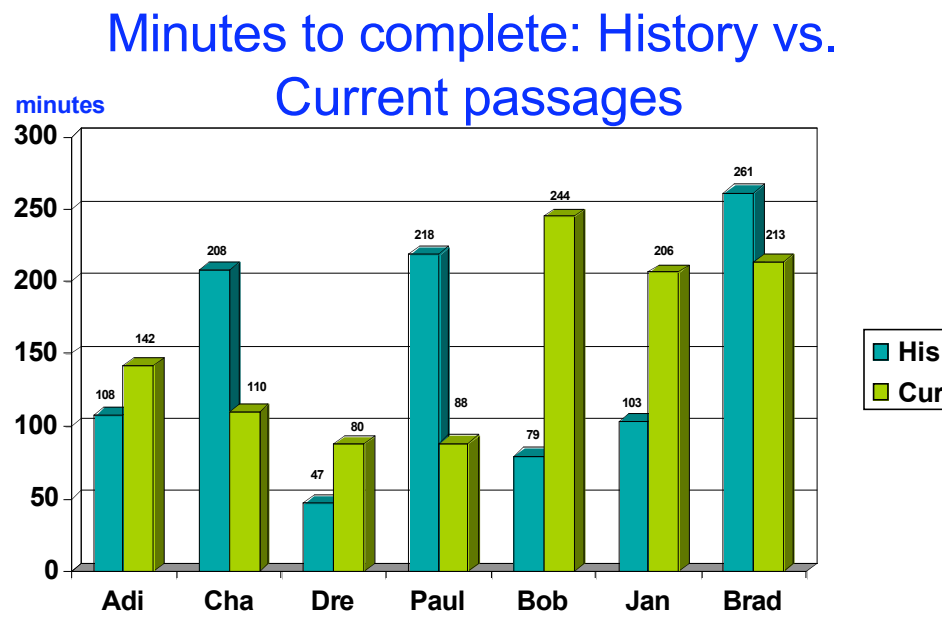


Figure 4.8

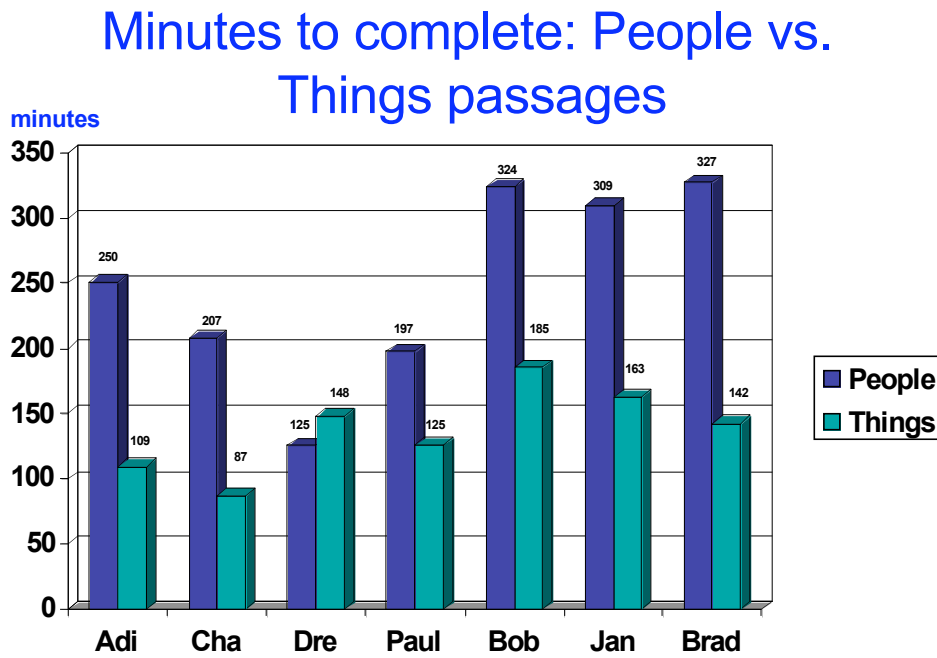


Figure 4.9

Minutes to complete: African American vs. African passages

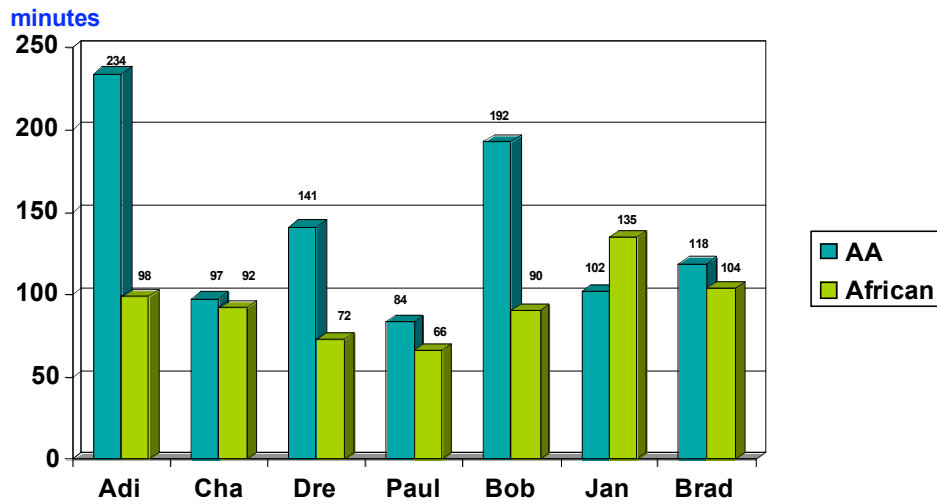


Figure 4.10

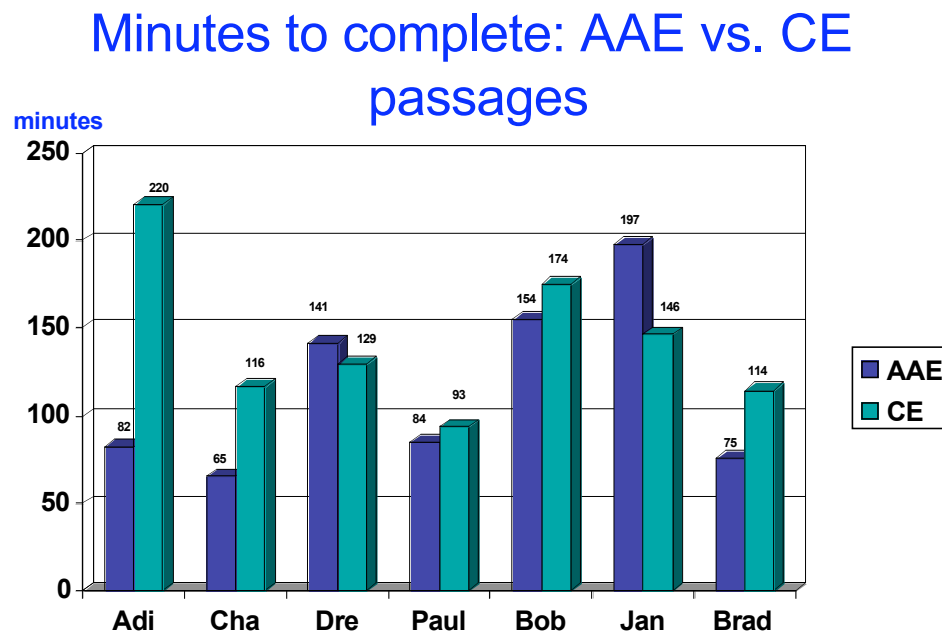


Figure 4.11

Percentage Correct on AAE and CE Passages

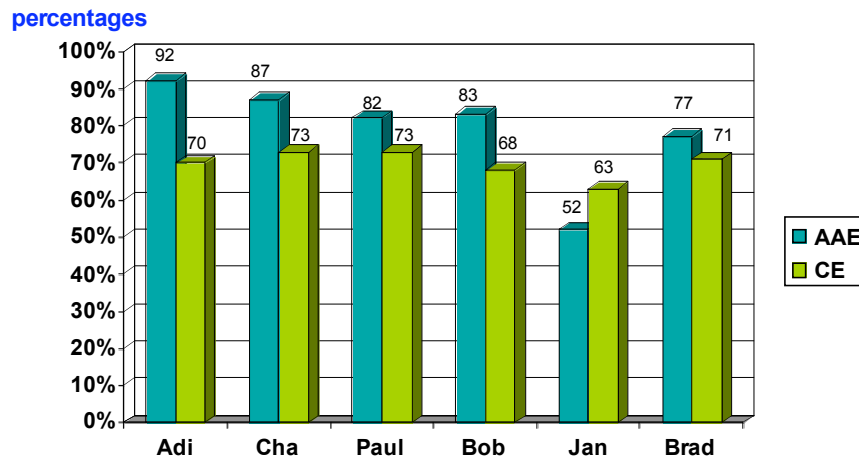


Figure 4.12

Dre's Percentage Correct on AAE and CE Passages

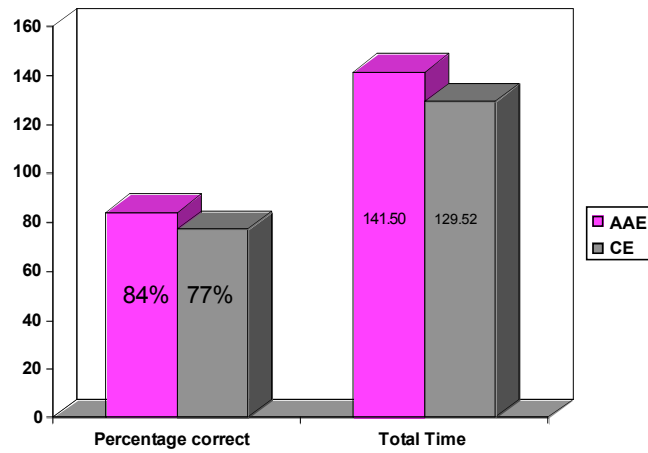
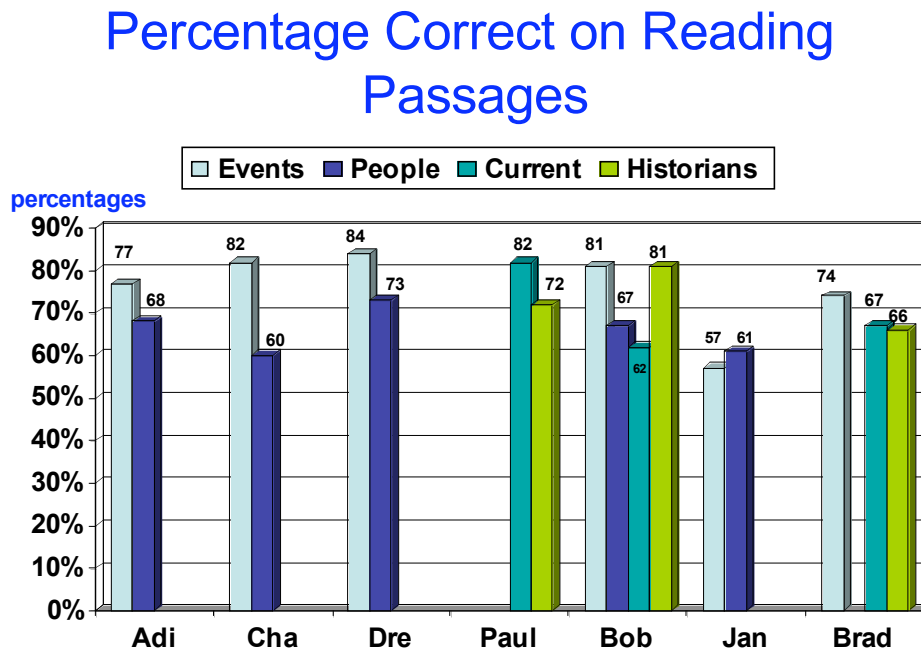


Figure 4.13



Descriptive Interview Data

This study examines the effects of CARR on reading motivation and academic engagement, as well as participant's perceptions about the CARR intervention that the students received (n=7). The student interviews revealed many similarities and some differences in the ways they reported their perceptions of the intervention. Analysis of students' interview data focused on four major ideas: (a) perceptions about reading motivation as a result of CARR; (b) attributes of CARR that the students liked or did not like; (c) the desire to continue with CARR; and (d) the changes that students would like to see made to CARR.

Perceptions About Reading Motivation as a Result of CARR

Students were asked about their motivation to read after completing the CARR intervention. They reported that CARR encouraged them to read more. An excerpt of a student's opinion about their motivation for reading after CARR is as follows:

Yes, the passages made me want to read more

Why did it make you want to read more?

They were interesting. We got to read about different people who did all kinds of things. I liked that part. [Jannette]

Did the passages makes you want to read more?

Yes.

Why did they make you want to read more?

They were interesting and they made me want to read more about black history. They made me want to read. I like reading things about people well black people. [Bobby]

Attributes of CARR that the Students Liked or Did Not Like

Students' perceptions about reading motivation as a result of CARR were examined. Additionally, the attributes of CARR that the students liked, as well as those they did not like, were examined. Students' opinions are presented and organized in three themes below: (a) passages and activities in CARR students liked; (b) features of CARR students liked; and (c) features students would like to add to or change in CARR.

Passages and Activities in CARR Students Liked

There are six types of reading passages and activities in CARR, namely, passages in African American English, passages in classroom English, passages about African

American people, passages about events and things in the African American community, passages about famous African American historical figures, passages about current famous African Americans, passages about African American culture and passages about the African culture. Several students were specific as to which types of passages they liked reading. For example, one student indicated that the passages on people—that is passages on both famous African American historical figures and contemporary famous African Americans--were interesting to her and made her want to use CARR.

Which passages did you like reading about?

I like reading about P. Diddy, Usher and Garret Morgan. I like all them. I liked reading about what they did and stuff. A lot of it I didn't know happened and stuff like that, but I like reading and getting to know the people. [Chameka]

Another student said he liked reading passages about events and things in the African American community.

I liked “going to Big Momma’s and the hair ones. They were easy to read because I already knew about them. I know about braids. My momma can corn row and do braids and stuff. She sometimes do my hair. [Paul]

Features of CARR Students Liked

The students had a positive view about CARR. When asked what features of CARR students liked, five students stated that they liked the end of the level challenges. While no students identified the language arts activities as a feature they liked. One student did reveal that they did not like the language arts activities. Although all students

remarked that they liked the use of slang in the challenges. One student made the following comment when asked “What did you like about the software?”

I liked the challenges and using the different words. Using the slang words to help get all the books. It was fun and I learned about lots of people. I learned more things about black people and stuff like that. [Jannette]

Two students expressed that their favorite feature of CARR was working on the computer. One student stated,

I liked working on the computer. When you read a book you have to turn the passages but on the computer you can use the mouse. On the computer you can see the cartoons and videos and hear the music. [Bradley]

Features Students Would Like To Add/Or Change in CARR

The Use of CARR in Other Subjects

Students perceived CARR as a tool to teach other subjects in their classes. Overall students provided specific subjects that they would like CARR to address and develop culturally and linguistically relevant activities for. Two subjects were identified by all students. They stressed that CARR should be provided in the subjects of Math and Social Studies. The students explained that it would make home work more interesting, as noted in the following comments:

One day work on the computer the next day use hand outs of the stories so we can take them home and read about them at home, for homework. [Jannette]

Instead of doing reading everyday, we could do it with math, social studies and all those things. It would make them easier and doing it at home easier. [Adina]

There could be challenges for reading; there could be all kinds of Social Studies, Math and everything. There could be challenges for all of them. [Bradley]

Desire to Continue with CARR

Students were asked if they would continue the use of CARR. All students said that they would. The main reason for the students' desire to continue with CARR was that they wanted to learn more and wanted to use the software at home. Examples of their comments are as follows:

Yes, because it helps us learn more from it. It should be used at home. Like if that was our reading homework everyday and the teacher gave us it, for homework like if we did two of them each day, then you could bring it back and then they check it.[Jannette]

It should be used at home and at school, like if you don't have anything to do you can use it at home. [Bradley]

Maybe we could use it in our other classes, like when we have free time to practice reading. [Dre]

CHAPTER 5

DISCUSSION

Because the design of the study is pre-experimental, the results should be viewed as preliminary and descriptive. Reading motivation and student's academic engagement are important factors for school success. There is an expectation that students read on grade level but that they also want to read. This expectation is even more pronounced in the third grade because of mandates like NCLB's *Reading First Initiative*. With this initiative, students are required to participate in state standardized testing such as the Texas Assessment of Knowledge and Skills (TAKS). The implementation of the TAKS test begins in the third grade. Students are given three opportunities to pass the TAKS, or they will be considered for retention in the 3rd grade (Office of Texas High School Education Critical Issues Report, 2001; Texas Education Agency, 2004). This challenges educators to provide motivational and academically engaging curriculum and instruction for AAE speakers in special education and/or "at-risk" for special education placement reading below grade level to prepare them for state standardized testing.

Motivating and academically engaging AAE speakers in special education and/or "at-risk" of special education placement reading below grade level is to provide this population of students with curriculum and instruction that is culturally and linguistically responsive (Mc Millian, 2004; Rickford, 2001; Willis, 2002). CARR is culturally-based computer software designed to be a culturally and linguistically relevant instructional tool for AAE speakers in special education and/or "at-risk" of special education placement

reading below grade level to use as part of their reading and language arts instruction for the purpose of improving students' motivation and academic engagement in these subject areas.

This study attempted to examine the effectiveness of CARR as a culturally and linguistically relevant instructional tool to improve students' motivation and academic engagement in reading for AAE speakers in special education and/or "at-risk" of special education placement reading below grade level. The research questions were addressed by examining the effects of the CARR intervention for 12-weeks on this population of students. Additionally, this study examined student's perceptions of culturally and linguistically relevant materials and instruction based on the CARR intervention. A pre-test and post-test was given to measure student's motivation and responsiveness to culturally and linguistically relevant materials and instruction.

Discussion of Pre/Post-Test

The results from this study suggest that the CARR tutorial software may be effective in reading motivation and academic engagement of AAE speakers in special education and/or "at-risk for special education placement reading below grade level. Five of the seven participants showed an increase in reading motivation, but it is important to note that in absolute terms there was not much difference in the scores of the motivation scale from pre to post. One student, Bobby started the study during the intervention phase and he was not assessed with the Pre-CARR: RMS. Therefore he did not have a pre-motivation score to compare with his post-score. Another exception in reading motivation

as measured by the CARR: RMS was with Adina. Her reading motivation score decreased after the use of the CARR intervention. However, some probable reasons are offered as to why Adina decreased in reading motivation after the use of the CARR software. When asked specific questions from the CARR: RMS that measured reading motivation Adina answered “No”. She was prone to answer “No” to questions that were specific to addressing reading out loud or to some one else. Adina is in special education for a speech and language impairment, she is very self –conscious about the way she talks and Adina is more comfortable reading silently. During the study when asked to read a sentence out loud, Adina was reluctant to do so and she often times refused.

This results also point to some benefit from CARR in terms of the students’ responsiveness to culturally and linguistically relevant materials. That is, three of the seven participants showed an increase in culturally and linguistically responsiveness, but given the design limitations these gains cannot be attribute to CARR. One student, Bobby started the study during the intervention phase and he was not assessed with the Pre-CARR: RMS. Therefore, he did not have a pre-responsiveness score to compare to his post-score. Two participants Dre and Janette were exceptions, and did not increase their culturally and linguistically responsiveness as measured by the CARR: RMS. Both students’ responsiveness scores stayed the same after the use of the CARR intervention. Some reasons why Dre and Janette’s levels of responsiveness to culturally and linguistically relevant materials and instruction stayed the same after the use of the CARR software appears to lie in their preconceived and patterned responses based on past experiences. When asked specific questions from the CARR: RMS that measured

responsiveness, both Dre and Janette tended to answer the same on both Pre and Post scales. Out of the 22 questions that measured responsiveness from the scale, Dre answered 20 of the questions the same from both pre-scale and post-scale and Janette answered 18 of the questions the same from pre to post-scales. Even though they did not answer all 22 questions with the exact same answers from pre-scale and post-scale, values for their post- scale answers totaled the same as their pre-scale answer scores.

One student Adina had a decrease in her culturally and linguistically responsiveness as measured by the CARR: RMS. First, Adina completed passages that were about events and things in the African American community and passages written in African American English more quickly than other passages that were about African American people (both famous historians and current African Americans). However when asked specific questions from the CARR: RMS on those particular topics she answered “No” that she neither liked reading books that had characters that talked like her nor did Adina want to read stories about events or things in her community. Again, it is possible that Adina answered “No” to the former question because she is in special education for a speech and language impairment, and she is very self –conscious about the way she talks. Adina may have taken the question to mean sounds like her instead of using the language variety in which she speaks, African American English. Concerning, the latter, Adina lives in low income housing and the topic of conversation was often with the children where they lived and with which peers lived in the “ghetto” apartments down the street from the school. Second, the number of passages that were related to events and things in the African American community were out numbered by passages on African

American people (both famous historians and current African Americans). Examining the time it took to complete passages about people it appears to be evidence that Adina was not engaged with those passages that related to famous African Americans versus the passages on events and things in the African American community. However, she might have routinely answered “No” to questions on the CARR: RMS that dealt with her liking to read passages on events and things in the African American community because of the high frequency of reading passages about people, which might have influenced her to believe that because there were more passages on famous African Americans that these passages might be more important or significant, and therefore, better for her to say she enjoyed reading them.

Discussion of Intervention Results

This study showed that it may be possible to improve students’ academic engagement with culturally-based computer software such as CARR. Concerning the seven students, the CARR intervention showed positive effects on most of the students’ academic engagement. The results appears to correspond with the literature and research that suggests culturally responsive materials and instruction will interest and therefore, influence motivation and academic engagement of students of color, more specifically, African American students to the curriculum and in school (Gay, 2000; Rickford, 2001). Of the seven students, the CARR intervention had positive effects on students’ academic engagement, which is evidenced by students’ attempts to get through the reading passages and language arts activities, the percentage of correct responses, the length of

time to complete reading passages and language arts activities. Such an increase was demonstrated in all intervention lesson types, both reading passages and language arts activities and slang vocabulary challenges. Six of seven students had a higher level of engagement in passages written in African American English and they had a larger percentage of correct answers with those passages.

Adina

Adina showed an increase in academic engagement during intervention on particular types of reading and language arts activities. In fact, Adina made several attempts on passages that were about both African and African American historians. With the CARR intervention, the more times she attempted a passage she showed an interest in that passage. Another measurement of academic engagement with the CARR intervention was the length of time to complete passages. The less time it took Adina to complete passages showed engagement in the passage. She showed engagement in passages that were in AAE by completing these passages more quickly than passages in classroom English. Additionally, she obtained a larger percentage of correct responses on passages in AAE. It is clear that Adina was engaged during the intervention when completing passages that were written in AAE. However, a positive effect of the intervention on her academic engagement in passages about people more specifically current African Americans were not found. She obtained a lower percentage of correct answers on these passages.

Chameka

Chameka showed an increase in academic engagement during intervention on particular types of reading and language arts activities. In fact, Chameka made several attempts on passages that were about famous current people and historians who were African Americans and passage that were about events or things in the African American community. With the CARR intervention the more times she attempted a passage showed an interest in that passage. Another measurement of academic engagement with the CARR intervention was the length of time to complete passages. The less time it took Chameka to complete a passage showed engagement in that passage. She showed engagement in passages that were written in AAE by completing these passages more quickly than passages in classroom English. Additionally, she obtained a larger percentage of correct responses on passages in AAE. It is clear that Chameka was engaged during the intervention when completing passages that were written in AAE. However, a positive effect of the intervention on her academic engagement in passages about people more specifically famous African American historians were not found. She obtained a lower percentage of correct answers on these passages.

Dre

Dre showed an increase in academic engagement during intervention on particular types of reading and language arts activities. In fact, Dre, made several attempts on passages that was about events or things in the African American community. With the CARR intervention the more times he attempted a passage showed an interest in that

passage. Another measurement of academic engagement with the CARR intervention was the length of time to complete a passage. The less time it took Dre to complete a passage showed engagement in that passage. He showed engagement in passages that were written in classroom English by completing these passages more quickly than passages in AAE. However, Dre obtained a larger percentage of correct responses on passages in AAE. It is unclear to why he got a higher percentage of correct answers in AAE but Dre also showed engagement in passages written classroom English as measured by attempts. He also showed the same trend with reading passages on people versus events or things in the African American community. Even though Dre completed reading passages on people more quickly than reading passages on events and things in the African American community, he obtained a higher percentage of correct answers on events and things in the African American community. Again, this trend is unclear.

Paul

Paul showed an increase in academic engagement during intervention on particular types of reading and language arts activities. In fact, Paul made several attempts passages that were about events or things in the African American community and passages on famous African American historians. With the CARR intervention the more times he attempted a passage showed an interest in that passage. Another measurement of academic engagement with the CARR intervention was the length of time it took to complete a passage. The less time it took Paul to complete a passage showed engagement in that passage. He showed engagement in passages that were

written in AAE by completing these passages more quickly than passages in classroom English. Additionally, Paul obtained a larger percentage of correct responses on passages in AAE. It is clear that he was engaged during the CARR intervention when completing passages that were written in AAE. However, a positive effect of the CARR intervention on his academic engagement in passages about people more specifically famous African Americans were not found. Even though he attempted these passages more often, Paul obtained a lower percentage of correct answers on these passages.

Bobby

Bobby showed an increase in academic engagement during CARR intervention, but this increase was specific to particular types of reading and language arts activities. In fact, Bobby made several attempts on passages that were about current famous African Americans. With the CARR intervention the more times he attempted a passage showed an interest in that passage. Another measurement of academic engagement with the CARR intervention was the length of time it took to complete a passage. The less time it took Bobby to complete a passage showed engagement in that passage. He showed engagement in passages that were written in AAE by completing these passages more quickly than passages written in classroom English. Additionally, Bobby obtained a larger percentage of correct responses on passages in AAE. It is clear that he was engaged during the intervention when completing passages that were written in AAE. However, a positive effect of the intervention on his academic engagement in passages about people more specifically current famous African Americans were not found. Even

though Bobby attempted these passages more often, he obtained a lower percentage of correct answers on these passages.

Janette

Janette showed an increase in academic engagement during intervention on particular types of reading and language arts activities. In fact, Janette made several attempts on passages over that were about events or things in the African American community and passages about famous African American historians. With the CARR intervention the more times she attempted a passage showed an interest in that passage. Another measurement of academic engagement with the CARR intervention was the length of time to complete a passage. The less time it took Janette to complete a passage showed engagement in that passage. She showed engagement in passages that were written in classroom English by completing these passages more quickly than passages in AAE. Additionally, Janette obtained a larger percentage of correct responses on passages in classroom English. It is clear that Janette was engaged during the CARR intervention when completing passages that were written in classroom English. However, a positive effect of the CARR intervention on her academic engagement in passages about events and things in the African American community was not found. Even though Janette attempted these passages more often, she obtained a lower percentage of correct answers on these passages.

Bradley

Bradley showed an increase in academic engagement during intervention on particular types of reading and language arts activities. In fact, Bradley made several attempts on passages that were about events and things in the African American community. With the CARR intervention, the more times he attempted a passage showed an interest in that passage. Another measurement of academic engagement with the CARR intervention was the length of time to complete a passage. The less time it took Bradley to complete a passage showed engagement in that passage. He showed engagement in passages that were written in AAE by completing these passages more quickly than passages in classroom English. Additionally, Bradley obtained a larger percentage of correct responses on passages in AAE. It is clear that he was engaged during the intervention when completing passages that were written in AAE. However, a positive effect of the intervention on his academic engagement in passages about famous African American historians was not found. Bradley obtained a lower percentage of correct answers on these passages.

The results indicate a positive effect on some of the students' academic engagement which may have been brought about by the CARR intervention. It should not be forgotten, however, that CARR the intervention consisted of two components. The students were not only utilizing culturally and linguistically responsive materials and instruction but also were provided CAI. We did not systematically assess the effects of CAI on students' motivation and academic engagement therefore, we are unable to draw a conclusion regarding the impact of this component of the intervention. Additionally, the

results of the CARR intervention not only show that the present intervention can improve the academic engagement for AAE speakers in special education and/or “at-risk” of special education placement reading below grade level.

Discussion of Findings from Student Interviews

Student interview responses revealed their perceptions regarding the efficacy of CARR, their perceptions about reading improvement as a result of CARR, and their willingness to continue with CARR. The findings revealed that AAE speakers in special education or “at-risk” of special education placement reading below grade level had positive perceptions about CARR. All students in the study perceived, as a result of using CARR that their reading motivation and academic engagement improved. The students expressed that they wanted to continue the use of CARR tutorial software for their early morning reading programs.

An analysis of students’ interviews provided insight on what attributes of CARR the students liked. Students identified that they liked particular reading passages over other passages. Students identified such passages about events and things in the African American community and passages about famous current African Americans and historians as passages they liked the most. However, passages in classroom English were identified as passages students least liked. Features of CARR students liked included the challenges that used AAE, interesting reading passages, using the computer to complete passages and activities and the music and animation found in CARR. Features of CARR least liked by students included only doing passages and activities in the subject areas of

reading and language arts. This information provided by students will guide the refinements/revisions of CARR for the purpose of making it more effective in improving reading motivation and academic engagement of AAE speakers in special education or “at-risk” for special education placement reading below grade level. The following section discusses suggestions based on student interviews and other findings on the refinement and revisions of CARR.

Suggestions for Refinement/Revision of CARR

Culturally And linguistically Responsive Reading (CARR) was developed to incorporate motivational and academically engaging reading passages and language arts activities for AAE speakers in special education and/or “at-risk” for special education placement reading below grade level. For this population of students it may be challenging to motivate and academically engage them in reading and language arts because of the lack of materials that these students see themselves and their community reflected as well as culturally and linguistically responsive materials available to them (Gay, 2000; Rickford, 2001; Willis, 2004). For this reason, CARR provided two genres of reading passages, biographical reading passages of both African Americans historians and current famous African Americans and passages about events and things in the African American community that incorporated the skill of drawing conclusions. Quite a few students in the study voiced their desire for different types of genres of reading passages. For example, one student stated “are there any other types of stories? I like reading stories where I get to guess the end” (predicting). Furthermore, it is important to

address the need for multiple genres of reading passages that are culturally and linguistically responsive for this population of students. It seems that CARR needs to be modified to incorporate a variety of genres for these students. By incorporating multiple genres in reading passages would expose students to different styles of writing, different ways of knowing and different ways to assess what they have read. The current CARR software provides only two types of reading genres. It was purposively designed to provide AAE speakers in special education and/or “at-risk” for special education placement reading below grade level culturally and linguistically responsive reading materials. However, by just providing only two types of reading genres (e.g. biographical and drawing conclusions) may have prohibited greater gains in reading motivation because students may have become bored. Therefore, it is recommended that multiple genres of reading passages be added to CARR. This recommendation is supported by research evidence indicating that students need to be exposed to a variety of genres, which helps to improve reading performance (Ivey & Broaddus, 2000; Maurano, 2003; Texas Education Agency, 2002).

Another important finding from students’ interviews was their negative responses to the challenges in AAE. Although the challenges in slang were designed to provide the students with linguistically responsive materials and was identified as one of the things students liked about CARR, some students struggled with understanding the AAE vocabulary words’ meaning in classroom English. The challenges addressed the skill of context clues. Some students failed to understand the concept of context clues. Their confusion was further compounded by the fact that the sentences with context clues were

written in AAE and the answer choices were written in classroom English. For example, a student stated, “I don’t know these words. I know these (AAE) words but I don’t know these words.” Therefore it is recommended that the challenges which are context clues, be written in AAE and their choices be written in AAE and gradually add through out the different levels of CARR classroom English to the context clues answer selections. Such additions would be beneficial in developing students’ vocabulary in both classroom English and AAE as well as helping to clarify meanings of vocabulary words.

Implications for Theory, Research and Practice

Theory

Many theorists indicate that providing students with culturally and linguistically relevant materials and instructions will motivate and academically engage CLD students in the curriculum (Gay, 2000, Rickford, 2001; Willis, 2004). However, in previous research in the field of education when examining the use of CRT with African Americans, we have not focused on the use of language. This study has an implication for extending the scope of CRT for African American students by providing these students with linguistically responsive materials. African American cultural contexts were infused throughout CARR through vocabulary development, a variety of sentence structures, and real-life African American community contexts. There may be great promise in examining the interactive context of a variety of theoretical frameworks (i.e. dimensions

of culture, AAE, CRT), and their impact on the academic achievement of African American learners.

Research

Research reveals a significant achievement gap between African American students and their European peers, especially in the area of reading achievement. This has been theorized to be correlated with several factors, such as students' motivation and academic engagement, teacher perceptions, and the lack of culturally and linguistically responsive curriculum and instruction (Chall, 2000; Knapp, 1996; McDurmott, 1997; McWhorter, 2000; Rickford, 2001). The implication is that academic success may ensue when such provisions are critically examined and assessed. CARR incorporated the use of culturally and linguistically relevant materials and instruction for AAE speakers. It is, therefore, implied that the use of CARR will positively affect AAE speakers' academic achievement. The use of these materials and instruction focused on students' prior knowledge and experiences. CARR was designed to arouse students' motivation and academic engagement in reading and language arts. When teachers build on students' prior knowledge and skills, and then provide appropriate instruction, students move more easily from what they know to what they need to know. Building on students' prior knowledge and experiences provides enhanced opportunities for learning (Gay, 2000; Ladson –Billing, 1994) and improves students' engagement (Miron & Lauria, 1998; Nieto, 1999).

Practice

CARR has the potential to be a beneficial tool of instruction that educators utilize for their students who are AAE speakers and show a lack of motivation and academic engagement in Reading and Language Arts. CARR could be easily implemented into teachers' classroom instructional practices because it provides the recommended strategies for culturally responsive teaching. Teachers who do not have access to computers in their classrooms can still benefit from the use of CARR by implementing the culturally and linguistically relevant reading passages and language arts activities in the form of handouts and/or worksheets for their students. CARR may also serve as a tool for on-going assessment because of its ability to assist in continuous progress monitoring.

CARR has a function of continuous progress monitoring of students' motivation, academic engagement and academic performance. An important feature of CARR is a built –in function that tracks and records students' performance on reading passages and language arts activities. After each session of CARR, teachers can review students' performance data. This can be beneficial in assisting teachers with monitoring their students' performance, thereby identifying students' areas of difficulties and providing additional instruction where needed. Additionally, continuous progress monitoring to inform teachers concerning instruction has shown positive effects on students' academic achievement (National Center on Student Progress Monitoring, 2004). Therefore, it is recommended that teachers utilize this feature to help monitor students' progress and plan additional instruction accordingly.

Education system may be positively impacted by the implementing CAI, such as CARR, which motivates and engages AAE speakers to academically achieve. CARR tutorial software has the potential to be utilized for teacher training. For example, a growing body of research-efforts describes the knowledge base needed by educators for teaching in a diverse classroom (Abt-Perkins & Rosen, 2000). Many teachers are unaware that African American students may need culturally relevant materials and instruction, and particularly linguistically relevant materials and instruction. Teachers are often unfamiliar with effective culturally responsive teaching strategies and practices to provide beneficial instruction to CLD students. For both pre-service and in-service teachers, there is insufficient training for teaching this population of students. Therefore, the use of CARR in teacher training would be beneficial by providing a resource for teachers who teach African American students with dialect differences and who may be unfamiliar with their students' language variety and culture.

Recommendations for Future Research

Major goals of CRT are to recognize, accept, and focus on the strengths CLD students bring into the classroom (Gay, 2000). Both teachers and students benefit from the use of CRT and its characteristics of recognition, acceptance and emphasis on students of colors' strengths that are displayed in the classroom. Unfortunately, educators that know the importance of CRT and want to use CRT in their classrooms complain of limited practical strategies that can be implemented in their classrooms. This study did examine the use of CRT strategies for CLD students in reading and language arts;

however, it does not provide practical strategies for other subject areas. Therefore, it is recommended that further research should examine the use of culturally-based computer software with AAE speakers in subject areas such as social studies, science and math.

Teachers' negative perceptions and attitudes about the language used by some African American students have also been linked to success in the classroom and learning mastery. Teachers' perceptions and attitudes about the language used by many African Americans and AAE speakers are important in the teacher/student teaching and learning relationship (Baugh, 2001). Unfortunately, little research has been done on African American students' perceptions about their own language and its use. All participants in the CARR study were AAE speakers, even though, none of the students classified themselves as AAE speakers, or were aware that they spoke a variety other than classroom English. For example, when completing reading passages and language arts activities that were written in AAE, several students made comments about grammatical errors and typing errors in the materials. It seems reasonable to suggest that future research examine the perceptions students may hold about their language as well as the effectiveness of the use of linguistically responsive materials to AAE speakers that do not perceive themselves to be or recognize that they speak a variety other than classroom English.

This study had one independent variable—CARR used with one group of students. Since CARR was developed to incorporate culturally and linguistically responsive materials and instruction in reading motivate and academic engagement for AAE speakers it would be logical to compare this group of students with a control group.

Without having a control group as a comparison condition in this study, whether CARR is more effective than traditional reading and language arts instruction is unknown. Therefore, future research needs to provide a comparative effect of CARR and traditional reading instruction on the reading motivation and academic engagement of AAE speakers in special education and/or “at-risk” for special education placement reading below grade level is needed.

The CARR intervention in this study was utilized for 25-30 minutes totaling 60 sessions over 12 weeks. A more extensive examination of the effects of CARR is needed. The duration of the study (12-weeks) is a suitable time frame for an intervention study, however, extending the study’s duration may help to strengthen the study’s results that show that there is a relationship between motivation and academic engagement and providing AAE speakers in special education and/or “at-risk” for special education placement reading below grade level culturally and linguistically responsive materials and instruction that is CARR.

Finally, this study was implemented by the author to ensure fidelity of implementation. However, other research indicates that interventions delivered by the author/researcher showed significantly higher positive outcomes than interventions delivered by the classroom teacher (Talbot et al., 1994). Therefore, it is recommended that future research examine the effects of a teacher delivering CARR to AAE speakers in special education and/or “at-risk” for special education placement reading below grade level is needed.

Limitations of the Study

Several limitations of this research study may have influenced the effects of and interpretation of the study. This study attempted to avoid unsound methods that are present in some intervention studies that take place in schools. First, finding participants that fit the criteria for the study in an elementary school in which the principal and teachers were willing to participate in the study was difficult. Obtaining permission and parental consent was difficult as well. Many of the parents had to receive phone calls from the principal before returning the signed parental consent forms. Even though this study had an experimental design of a single-subject study, the sample size was smaller than anticipated. The total number of 7 students was the sample size in the CARR study. The small sample size in this study reduced the generalizability of the effects of CARR on students reading motivation and academic engagement.

Second, obtaining a reliable reading motivation scale was a challenge for this study. Although CARR used a modified version of the *Motivations for Reading Questionnaire* developed by Allan Wigfield and John T. Guthrie from the *University of Maryland*, it may not have been an ideal assessment tool to measure reading motivation and responsiveness to culturally and linguistically responsive materials and instruction. Therefore, a tool to measure students' responsiveness was needed for this study. At this time this type of measure does not exist.

Finally, the school did provide computers for the use of the CARR study but the computers were older models and used Windows 98. The CARR software was made using windows 2003 and was not compatible with the current windows installed on the

school's computers however the school was connected to the Internet. Therefore, the software had to be re-programmed and set up as an interactive website on the internet in order for the students to gain access to CARR. Because the software was originally made for a software program and not a website, this caused a delay in the animation and instruction of CARR. Additionally, this delay led to student's complaints about the speed of moving from one screen to another and possibly reduced their motivation to use CARR.

Summary

The purpose of this study was to examine the effects of CARR on the reading motivation and academic engagement of AAE speakers in special education and/or "at-risk" for special education placement reading below grade level. The study attempted to examine students' perceptions about CARR. The results of this study revealed that CARR tutorial software can be effective in improving reading motivation and academic engagement of AAE speakers in special education and/or "at-risk for special education placement reading below grade level. This study indicated a pretest and posttest improvement on CARR: RMS across five of the seven participants. The study also indicated an improvement in all seven students' academic engagement. Even though there were several limitations of the study, the findings of this study suggest that CARR has the potential to motivate and academically engage AAE speakers in special education and/or "at-risk" for special education placement reading below grade level. Additionally, an analysis of the student interviews demonstrated that students had positive perceptions

about CARR. This study contributes to the knowledge base on culturally responsive teaching and its effects on motivation and academic engagement for AAE speakers in special education and/or “at risk” of special education reading below grade level.

My Reflections

In the commencement of this study I was very interested in the areas of CRT and AAE. However, I was unsure of how to emphasize the importance of language identity as it relates to culture and providing African American students CRT. When we talk about CRT many times we forget that language is such an important part of culture and African American students are linguistically diverse. What I have learned from doing this study is that when students’ culture and language are validated within the curriculum and instruction, students have positive perceptions about their abilities, culture identity and language identity. Ten teachers nominated the students for this study because they were perceived to be unmotivated in reading and academically unengaged. However, when they had an opportunity to utilize materials that reflected their culture and language students were interested in the reading passages and language arts activities and wanted to continue with the use of the culturally-based computer software CARR.

Throughout the 12 week intervention I developed a strong bond with each of the seven students. I had a relationship with the students outside of the classroom. I attended students programs as well as volunteered in several of the students’ homeroom classes on Fridays. I became a part of the school community. I was a familiar face as the students saw me in their Early Morning Reading program, in the hallways, in their classes and in

their after school programs. As a result I was able to observe them in a variety of cultural and linguistically diverse contexts. This made me appreciate the development of CARR because I saw first hand the difficulties the students encountered in a classroom that was not culturally and linguistically responsive.

I hope that the field of Special Education will consider the importance of providing African American students with appropriate culturally and linguistically responsive materials. Additionally I think that the field needs to look at mandates like NCLB Act of 2001 and the re-authorization of IDEA as it relates to “Highly Qualified Teachers” and consider how that affects AAE students in the classroom. In order for a teacher to be truly “Highly Qualified” they must understand the issues and the importance of providing culturally as well as linguistically responsive curriculum and instruction for African American students.

APPENDIX

CARR READING MOTIVATION SCALE

CARR: Reading Motivation Scale

Student Number: _____

Gender: Male Female

Directions: The primary investigator will read each question to you and will record your answers. You can answer a question with these answers: No (1) Kinda (2) Sometimes (3) and Yes (4). You should try to answer every question. There is NO right or wrong answer.

Responses: 1 2 3 4
 No Kinda Sometimes Yes

	No	Kinda	Sometimes	Yes
1. My favorite subject is reading.	1	2	3	4
2. I am a good reader.				
3. I learn more from reading than when my teacher explains things to me.				
4. I will do well in reading on the TAKS this year.				
5. I like books with big words.				
6. I like reading books that are interesting.				
7. I like books that are about people who are African American.				
8. I like books that are not about people who are African American.				
9. I learn things by reading.				
10. I enjoy working on the computer.				
11. I like stories about people who use words that I hear at home.				
12. I don't like reading a story and then answering questions.				
13. I read to learn about people and things that interest me.				
14. I like to read about new things.				
15. I enjoy reading books about things I like.				
16. I like reading stories about famous African Americans.				
17. I would read more if the books were interesting.				
18. If the teacher discusses something about my community, I might read more about it.				
19. I look forward to reading.				
20. I like to read to my teacher.				
21. I like reading with the computer.				
22. I sometimes read to my parents at home.				
23. It is important to be a good reader.				
24. I like books about African American heroes.				
25. I think that books with out pictures are boring.				
26. I think that books with pictures are fun to read.				

27. I go to the library with my family.				
28. If I am reading about an interesting topic, I don't want to stop.				
29. I like stories about people and not things.				
30. I don't like it when there are no African Americans in the story.				
31. I like books about things I have done.				
32. I am happy when the teacher tells me I read well.				
33. I like books that have people that talk like me.				
34. I am happy when someone recognizes my reading.				
35. I like books about people I know.				
36. I don't like reading a book if the words are too big.				
37. I like reading stories about events/things in my community.				
38. My teacher often tells me what a good job I am doing reading.				
39. I like to read stories about my culture.				
40. I read because I have to.				
41. I enjoy reading books about people in different countries.				
42. I like reading books that use words spoken in my community.				
43. I don't like reading because it does not make me feel smart.				
44. It is very important to me to be a good reader.				
45. I have a computer at home.				
46. I only read when I have to.				
47. I like to read for fun.				
48. I read because I find the stories interesting.				
49. When I see a book with an African American on the cover it makes me want to read the book.				
50. I don't like reading stories that are too long.				
51. Books that have characters that talk like me are more interesting.				
52. I would read more if I could pick what I wanted to read about.				
53. Books that have characters who look like me are more interesting.				
54. I don't like to read out loud in class.				
55. I like reading about African American history.				
56. I look forward to using the computer.				
57. I wish I was more interested in reading.				

Item Justification

Below are the items of subtests motivation and responsiveness from the CARR: Reading Motivation Scale. Items on the scale are color coded. Items that are in yellow are items that correspond with the measurement of motivation. Items that are colored red correspond with the measurement of responsiveness. Items that are colored grey are miscellaneous items and have NO value.

Motivation: 1, 2, 3, 4, 5, 6, 9, 12, 14, 17, 19, 20, 22, 23, 25, 26, 27, 28, 32, 34, 36, 38, 40, 43, 44, 46, 47, 48, 50, 54, 57

Responsiveness: 7, 8, 11, 13, 15, 16, 18, 24, 29, 30, 31, 33, 35, 37, 39, 41, 42, 49, 51, 52, 53, 55

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